INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

January 22, 2010

VIA CERTIFIED MAIL 7002 0510 0002 7964 7080

Mr. Robert Lange, Manager
Environmental Control
United States Steel Corporation, Gary Works
One North Broadway
Gary, Indiana 46402

Dear Mr. Lange:

Re: NPDES Permit No. IN0000281
United States Steel – Gary Works Facility
Gary, Indiana, Lake County

Your application for a National Pollutant Discharge Elimination System (NPDES) permit for authorization to discharge into the waters of the State of Indiana has been processed in accordance with Section 402 and 405 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, et seq.), and IC 13-15, IDEM's permitting authority. All discharges from this facility shall be consistent with the terms and conditions of this permit.

One condition of your permit requires periodic reporting of several effluent parameters. These forms are available on the internet at the following web site:

http://www.in.gov/idem/5104.htm

Additionally, you will soon be receiving a supply of the computer generated preprinted federal NPDES DMR forms. Both the state and federal forms need to be completed and submitted on a routine basis. If you do not receive the preprinted DMR forms in a timely manner, please call this office at 317-232-8670.

Another condition which needs to be clearly understood concerns violation of the effluent limitations in the permit. Exceeding the limitations constitutes a violation of the permit and may subject the permittee to criminal or civil penalties. (See Part II A.2.) It is therefore urged that your office and treatment operator understand this part of the permit.

A response to the comments pertaining to the draft NPDES permit is contained in the Post Public Notice Addendum. The Post Public Notice Addendum is located at the end of the Fact Sheet.

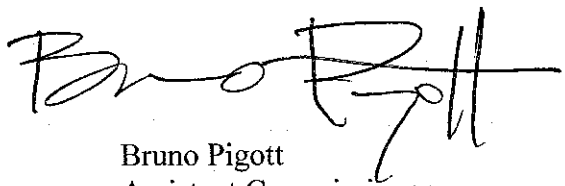
It should also be noted that any appeal must be filed under procedures outlined in IC 13-15-6, IC 4-21.5, and the enclosed Public Notice. The appeal must be initiated by filing a petition for administrative review with the Office of Environmental Adjudication (OEA) within eighteen (18) days of the mailing of this letter by filing at the following address:

Office of Environmental Adjudication
Indiana Government Center North
100 North Senate Avenue, Room 501
Indianapolis, IN 46204

Please send a copy of any written appeal to me at the IDEM, Office of Water Quality - Mail Code 65-42, 100 North Senate Avenue, Indianapolis, Indiana 46204-2251.

If you have any questions concerning the permit, please contact Stan Rigney at 317/232-8709. Questions concerning appeal procedures should be directed to the Office of Environmental Adjudication, at 317/232-8591.

Sincerely,



Bruno Pigott
Assistant Commissioner
Office of Water Quality

SRR
Enclosures
cc: U.S. EPA, Region V
Lake County Health Department

INDEX
for
United States Steel Gary Works NPDES Permit IN0000281

STATE OF INDIANA

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq., the "Act"), and IDEM's authority under IC13-15,

U.S. STEEL – GARY WORKS
UNITED STATES STEEL CORPORATION

is authorized to discharge only via outfall locations designated in this permit, from an Integrated Steel Mill facility which manufactures iron and steel products, and coke and coke making byproducts that is located at One North Broadway, Gary, Indiana 46402, to receiving waters named the Grand Calumet River and Lake Michigan in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, and III hereof. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

Effective Date: March 1, 2010.

Expiration Date: February 28, 2015.

In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management no later than 180 days prior to the date of expiration.

Signed on January 22, 2010 for the Indiana Department of Environmental Management.

Bruno Pigott
Assistant Commissioner
Office of Water Quality

TREATMENT FACILITY CLASSIFICATION

The discharger has seven industrial wastewater treatment plants rated as Class D, classified in accordance with 327 IAC 5-22, Classification of Wastewater Treatment Plants.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the permittee redirects the flow from Outfall 010 to Outfall 005, the permittee is authorized to discharge from Outfall 005. The discharge is limited to non-contact cooling water used in the coal preparation, coke and coke byproducts manufacturing processes, non-contact cooling water used in the coke oven gas desulfurization facility, non-contact cooling water used in the coke plant boiler houses, treated process wastewater from the coke and coke byproducts manufacturing processes (internal Outfall 501), steam condensate, and storm water runoff. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [6][11][14]
Outfall 005

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Oil & Grease [1]	------	------	------	Report	Report	mg/l	2 X Weekly	3 Grabs/24 Hrs
Selenium [5]	2.1	4.1	lbs/day	4.1	8.2	ug/l	1 X Weekly	24-Hr. Comp.
Benzene	Report	Report	lbs/day	Report	Report	ug/l	3 X Monthly	3 Grabs/24-Hr
Benzo-a-pyrene								
Interim	Report	Report	lbs/day	Report	1.0	ug/l	2 X Weekly	24-Hr. Comp.
Final [13]	0.047	0.12	lbs/day	0.093	0.23	ug/l	2 X Weekly	24-Hr. Comp.
Ammonia (as N)	Report	Report	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.
Free Cyanide [2][17]								
Season 1 [16]	3.447	8.08	lbs/day	6.9	16.1	ug/l	2 X Weekly	See Part I.Q.
Season 2 [16]	3.0	6.6	lbs/day	6.0	13	ug/l	2 X Weekly	See Part I.Q.
Mercury [5][7]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [15]	Grab
Final [12]	0.00066	0.0016	lbs/day	1.3	3.2	ng/l	Bi-Monthly [15]	Grab
Total Residual Chlorine [8][3]	4.0	9.1 [10]	lbs/day	8	18	ug/l	Daily [9]	Grab
Fluoride	Report	Report	lbs/day	Report	Report	ug/l	2 X Monthly	24-Hr. Comp.
Chloride	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Sulfate	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.

Discharge Limitations [6][11][14]
Outfall 005 (Table 1 Continued)

Parameter	Quantity or Loading Monthly Average	Quantity or Loading Daily Maximum	Units	Quality or Concentration Monthly Average	Quality or Concentration Daily Maximum	Units	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Whole Effluent Toxicity[13][18]								
Interim				Report		TU_c	Quarterly [19]	24-Hr. Comp.
Final	-------	-------	-------	1.0	-------	TU_c	Quarterly [19]	24-Hr. Comp.
Temperature [4]	----------	---------	----------	----------	Report	°F	2 X Weekly	6 Grabs/24-Hrs.

Table 2

Parameter	Quality or Concentration Daily Minimum	Quality or Concentration Daily Maximum	Units	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
pH	6.0	9.0	s.u.	3 X Weekly	Grab

[1] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[2] Cyanide shall be measured and reported as Available (Free) Cyanide. See Part I.Q. for additional requirements.

[3] See Part I.G. of the permit for Pollutant Minimization Requirements.

[4] See Part III.A., for additional Temperature Requirements.

[5] The permittee shall monitor and report the identified metals as total recoverable metals.

[6] See Part I.B. of the permit for the Narrative Water Quality Standards.

[7] See Part I.R. for Mercury Monitoring Requirements

[8] See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[9] Monitoring for TRC shall be 1 X Daily during Zebra or Quagga mussel intake chlorination, and continue for three additional days after Zebra or Quagga mussel treatment has been completed.

[10] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 30.2 lbs/day for Outfall 005.

[11] See the Fact Sheet for the water treatment additives in use at Outfall 005 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 005, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of

this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[12] The permittee has up to a sixty (60) month schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[13] The permittee has up to a thirty-four (34) month schedule of compliance from the effective date of the permit as outlined in Part I.D. of the permit in which to meet the final effluent limitations for Benzo(a)pyrene and the limits for Whole Effluent Toxicity (WET). Interim limitations shall apply until the final limits take effect.

[14] To ensure that process waters from current coke plant operations are not discharged, US Steel shall certify to that effect with each monthly discharge monitoring report as follows:

> "I certify that, to the best of my knowledge and belief, and having consulted with the manager of coke plant operations and coke plant personnel responsible for managing and disposing of cokemaking and by-product recovery wastewater, that process wastewaters generated from cokemaking and by-product recovery operations have not been discharged to the Grand Calumet River or to Lake Michigan through any outfall or conveyance since the last discharge monitoring report, except for the treated coke plant by-product recovery wastewater in Internal Outfall 501."

[15] Bi-Monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

[16] Season 1 ("salmonids absent") limitations apply April 1 – September 30 of each year. Season 2 ("salmonids present") limitations apply October 1 – March 31 of each year. These seasons are based on times when salmonids occur at the site.

[17] US Steel may develop the appropriate studies to determine an alternate season.

[18] See Part I.L. of the permit for Biomonitoring Requirements.

[19] Samples shall be taken once at any time during each of the four annual quarters:

(A) January-February-March;
(B) April-May-June;
(C) July-August-September; and

(D) October-November-December.

For quarterly monitoring, in the first quarter for example, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

2. During the period beginning when the flow from Outfall 010 has been redirected to Outfall 005, the permittee is authorized to discharge the combined flow through Outfall 005. The discharge is limited to non-contact cooling water used in the coal preparation, coke and coke byproducts manufacturing processes, non-contact cooling water used in the coke oven gas desulfurization facility, non-contact cooling water used in the coke plant boiler houses, treated process wastewater from the coke and coke byproducts manufacturing processes (internal Outfall 501), steam condensate, and storm water runoff. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [6][11][14][20]
Outfall 005

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Oil & Grease [1]	------	------	------	Report	Report	mg/l	2 X Weekly	3 Grabs/24 Hrs
Selenium [5]	2.1	4.2	lbs/day	4.1	8.2	ug/l	1 X Weekly	24-Hr. Comp.
Benzene	Report	Report	lbs/day	Report	Report	ug/l	3 X Monthly	3 Grabs/24-Hrs
Benzo-a-pyrene								
Interim	Report	Report	lbs/day	Report	1.0	ug/l	2 X Weekly	24-Hr. Comp.
Final [13]	0.047	0.12	lbs/day	0.093	0.23	ug/l	2 X Weekly	24-Hr. Comp.
Ammonia (as N)	Report	Report	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.
Free Cyanide [2][17]								
Season 1 [16]	3.5	8.2	lbs/day	6.9	16.1	ug/l	2 X Weekly	See Part I.Q.
Season 2 [16]	3.1	6.6	lbs/day	6.0	13	ug/l	2 X Weekly	See Part I.Q.
Mercury [5][7]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [15]	Grab
Final [12]	0.00066	0.0016	lbs/day	1.3	3.2	ng/l	Bi-Monthly [15]	Grab
Total Residual Chlorine [8][3]	4.1	9.2 [10]	lbs/day	8	18	ug/l	Daily [9]	Grab
Fluoride	Report	Report	lbs/day	Report	Report	ug/l	2 X Monthly	24-Hr. Comp.
Chloride	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Sulfate	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Whole Effluent Toxicity [18]								
Interim				Report		TU_c	Quarterly [19]	24-Hr. Comp.
Final	-------	-------	-------	1.0	-------	TU_c	Quarterly [19]	24-Hr. Comp.
Temperature [4]	----------	----------	----------	----------	Report	°F	2 X Weekly	6 Grabs/24-Hrs.

Table 2

	Quality or Concentration			Monitoring Requirements	
Parameter	Daily Minimum	Daily Maximum	Units	Measurement Frequency	Sample Type
pH	6.0	9.0	s.u.	3 X Weekly	Grab

[1] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[2] Cyanide shall be measured and reported as Available (Free) Cyanide. See Part I.Q. for additional requirements.

[3] See Part I.G. of the permit for Pollutant Minimization Requirements.

[4] See Part III.A., for additional Temperature Requirements.

[5] The permittee shall monitor and report the identified metals as total recoverable metals.

[6] See Part I.B. of the permit for the Narrative Water Quality Standards.

[7] See Part I.R. for Mercury Monitoring Requirements

[8] See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[9] Monitoring for TRC shall be 1 X Daily during Zebra or Quagga mussel intake chlorination, and continue for three additional days after zebra or quagga mussel treatment has been completed.

[10] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 30.7 lbs/day for Outfall 005.

[11] See the Fact Sheet for the water treatment additives in use at Outfall 005 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 005, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[12] The permittee has up to a sixty (60) month schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[13] The permittee has up to a thirty-four (34) month schedule of compliance from the effective date of the permit as outlined in Part I.D. of the permit in which to meet the final effluent limitations for Benzo(a)pyrene and the limits for Whole Effluent Toxicity (WET). Interim limitations shall apply until the final limits take effect.

[14] To ensure that process waters from current coke plant operations are not discharged, US Steel shall certify to that effect with each monthly discharge monitoring report as follows:

> "I certify that, to the best of my knowledge and belief, and having consulted with the manager of coke plant operations and coke plant personnel responsible for managing and disposing of cokemaking and by-product recovery wastewater, that process wastewaters generated from cokemaking and by-product recovery operations have not been discharged to the Grand Calumet River or to Lake Michigan through any outfall or conveyance since the last discharge monitoring report, except for the treated coke plant by-product recovery wastewater in Internal Outfall 501."

[15] Bi-Monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

[16] Season 1 ("salmonids absent") limitations apply April 1 – September 30 of each year. Season 2 ("salmonids present") limitations apply October 1 – March 31 of each year. These seasons are based on times when salmonids occur at the site.

[17] US Steel may develop the appropriate studies to determine an alternate season.

[18] See Part I.L. of the permit for Biomonitoring Requirements.

[19] Samples shall be taken once at any time during each of the four annual quarters:

(A) January-February-March;
(B) April-May-June;
(C) July-August-September; and
(D) October-November-December.

For quarterly monitoring, in the first quarter for example, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[20] USS shall notify the Compliance Evaluation Section of the Office of Water Quality in writing at least thirty (30) days prior to the completion of combining Outfalls 005 and 010 discharges.

3. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge cokemaking and by-product recovery area treatment system water including groundwater from the East Side Solid Waste Management Area (SWMA), from Internal Outfall 501 through Outfall 005, to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to commingling with any other process or non-process waters. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS
Internal Outfall 501

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
TSS	706	1,359	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Oil & Grease	Report	50.4	lbs/day	Report	Report	mg/l	2 X Weekly	3 Grabs/24 Hrs
Selenium [1]	Report	Report	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.
Benzene	Report	0.25	lbs/day	Report	Report	ug/l	3 X Monthly	3 Grabs/24-Hr
Benzo-a-pyrene	0.08	0.15	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.
Naphthalene	0.09	0.15	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.
Phenols (4AAP)	0.25	0.50	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.
Ammonia (as N)	27.9	40.4	lbs/day	Report	Report	ug/l	2 X Weekly	24-Hr. Comp.
Cyanide [2]								
Total	27.7	41.0	lbs/day	Report	Report	ug/l	2 X Weekly	See Part I.Q.
Free	Report	Report	lbs/day	Report	Report	ug/l	2 X Weekly	See Part I.Q.
				Minimum Daily	Maximum Daily			
pH				Report	Report	s.u.	1 X Weekly	Grab

[1] The permittee shall monitor and report the identified metals as total recoverable metals.

[2] Cyanide shall be measured and reported as Total and Available (Free) Cyanide. See Part I.Q. for additional requirements.

4. During the period beginning on the effective date of this permit and lasting until the flow currently discharging from Outfall 010 has been re-directed through Outfall 005, the permittee is authorized to discharge non-contact cooling water used in coal preparation, coke and coke byproducts manufacturing processes, and storm water runoff via Outfall 010 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][15][6][17]
Outfall 010

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Oil & Grease [2]	------	------	------	Report	Report	mg/l	2 X Weekly	3 Grabs/24 Hrs
Total Residual Chlorine [8][10]	0.055	0.12 [11]	lbs/day	8	18	ug/l	Daily [9]	Grab
Benzo-a-pyrene								
Interim	Report	Report	lbs/day	Report	1.0	ug/l	2 X Weekly	24-Hr. Comp.
Final [14]	0.00064	0.0016	lbs/day	0.093	0.23	ug/l	2 X Weekly	24-Hr. Comp.
Ammonia (as N)	Report	Report	lbs/day	Report	Report	ug/l	2 X Monthly	24-Hr. Comp.
Benzene	Report	Report	lbs/day	Report	Report	ug/l	3 X Monthly	3 Grabs/24-Hrs
Mercury [5][7]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [12]	Grab
Final [13]	0.0000090	0.000022	lbs/day	1.3	3.2	ng/l	Bi-Monthly [12]	Grab
Free Cyanide [3]								
Season 1 [16]	0.053	0.12	lbs/day	7.6	18	ug/l	1 X Weekly	See Part I.Q.
Season 2 [16]	0.046	0.090	lbs/day	6.7	13	ug/l	1 X Weekly	See Part I.Q
Chloride	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Sulfate	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Temperature [4]	----------	----------	----------	----------	Report	°F	1 X Weekly	6 Grabs/24-Hrs.
Whole Effluent Toxicity (WET)	See Part I.L. of the permit for Biomonitoring Requirements						Quarterly	24 Hr. Comp.

Table 2

	Quality or Concentration			Monitoring	Requirements
	Daily	Daily		Measurement	Sample
Parameter	Minimum	Maximum	Units	Frequency	Type
pH	6.0	9.0	s.u.	3 X Weekly	Grab

[1] There shall be no discharge of coke and coke byproducts manufacturing process wastewater, other than non-contact cooling water through Outfall 010.

[2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[3] Cyanide shall be measured and reported as Available (Free) Cyanide. See Part I.Q. for additional requirements.

[4] See Part III.A. for additional Temperature Requirements.

[5] The permittee shall monitor and report the identified metals as total recoverable metals.

[6] See Part I.B. of the permit for the Narrative Water Quality Standards.

[7] See Part I.R. for Mercury Monitoring Requirements.

[8] See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[9] Monitoring for TRC shall be 1 X Daily during zebra or quagga mussel intake chlorination, and continue for three additional days after zebra or quagga mussel treatment has been completed.

[10] See Part I.G. of the permit for Pollutant Minimization Requirements.

[11] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.42 lbs/day for Outfall 010.

[12] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

[13] The permittee has up to a sixty (60) month schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[14] The permittee has up to a twenty-four (24) month schedule of compliance as outlined in Part I.F. of the permit in which to meet the final effluent limitations for Benzo(a)pyrene. Interim limitations shall apply until the final limits take effect.

[15] See the Fact Sheet for the water treatment additives in use at Outfall 010 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 010, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[16] Season 1 ("salmonids absent") limitations apply April 1 – September 30 of each year. Season 2 ("salmonids present") limitations apply October 1 – March 31 of each year. These seasons are based on times when salmonids occur at the site.

[17] USS shall notify the Compliance Evaluation Section of the Office of Water Quality in writing at least thirty (30) days prior to the completion of combining Outfalls 005 and 010 discharges.

5. During the period beginning on the effective date of this permit, the permittee is authorized to discharge non-contact cooling water from blast furnace and sinter plant, steam condensate, treated SWD-1 Landfill wastewater, North Tennessee Street Drainage Sump effluent, and storm water runoff though Outfall 015 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][11][13]
Outfall 015

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Total Suspended Solids	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Oil & Grease [2]	------	------	------	Report	Report	mg/l	1 X Weekly	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
$CBOD_5$	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Free Cyanide [3]	Report	Report	lbs/day	Report	Report	ug/l	1 X Weekly	See Part I.Q.
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	ug/l	1 X Weekly	24-Hr. Comp.
Lead [4]	Report	Report	lbs/day	Report	Report	ug/l	1 X Weekly	24-Hr. Comp.
Zinc [4]	Report	Report	lbs/day	Report	Report	ug/l	1 X Weekly	24-Hr. Comp.
Temperature [5]	--------	--------	--------	--------	Report	°F	1 X Weekly	6 Grabs/24-Hrs.
Total Residual Chlorine [12]	0.11	0.26 [6]	lbs/day	8	18	ug/l	Daily [7]	Grab
Mercury [4][8][9]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [10]	Grab
Final	0.000018	0.000045	lbs/day	1.3	3.2	ng/l	Bi-Monthly [10]	Grab

Table 2

	Quality or Concentration			Monitoring	Requirements
	Daily	Daily		Measurement	Sample
Parameter	Minimum	Maximum	Units	Frequency	Type
pH	6.0	9.0	s.u.	1 X Weekly	Grab

[1] The discharge of non-contact cooling waters from blast furnace and sintering operations is permitted only through Outfalls 015, 018, 019, and 035.

[2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[3] Cyanide shall be measured and reported as Available (Free) Cyanide. See Part I.Q. for additional requirements.

[4] The permittee shall measure and report identified metals as <u>total recoverable metals</u>.

[5] See Part III.A., for additional Temperature Requirements.

[6] Compliance with the daily maximum mass value will be demonstrated if the calculated value is less than 0.85 lbs/day.

[7] Monitoring for TRC shall be 1 X Daily during zebra or quagga mussel intake chlorination, and continue for three additional days after zebra or quagga mussel treatment has been completed. See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[8] See Part I.R. for Mercury Monitoring Requirements.

[9] The permittee has up to a sixty (60) month schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[10] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

[11] See the Fact Sheet for the water treatment additives in use at Outfall 015 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 015, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[12] See Part I.G. of the permit for Pollutant Minimization Requirements.

[13] See Part I.B. of the permit for the Narrative Water Quality Standards.

6. During the period beginning on the effective date of this permit, the permittee is authorized to discharge treated SWD-1 Landfill wastewaters through Outfall 607 to the Grand Calumet River via Outfall 015. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to commingling with any other process or non-process waters. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [4]
Outfall 607

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Total Suspended Solids	Report	Report	lbs/day	30.0	60.0	mg/l	1 X Weekly	24-Hr. Comp.
Oil & Grease	------	------	------	10.0	15.0	mg/l	1 X Weekly	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
$CBOD_5$	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Free Cyanide [1]	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	See Part I.Q.
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp.
Lead [2]	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp.
Zinc [2]	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp.
Benzo(a)pyrene	Report	Report	lbs/day	Report	Report	mg/l	1 X Quarter[3]	24-Hr. Comp.
pH	------	------	------	------	Report	s.u.	1 X Weekly	Grab

[1] Cyanide shall be measured and reported as Available (Free) Cyanide. See Part I.Q. for additional requirements.

[2] The permittee shall measure and report identified metals as <u>total recoverable metals</u>.

[3] Samples shall be taken once during each of the four annual quarters:

(A) January-February-March;
(B) April-May-June;
(C) July-August-September; and
(D) October-November-December.

For quarterly monitoring, in the first quarter for example, the permittee may conduct sampling within the month of January, February <u>or</u> March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[4] By January 31st of each year, US Steel will provide all Mercury data collected for this outfall for the previous year.

7. During the period beginning on the effective date of this permit, the permittee is authorized to discharge blast furnace and sinter plant non-contact cooling water, storm water runoff and turboboiler blowdown, stock house misc. steam condensate & air conditioner non-contact water through Outfall 018 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][10][13]
Outfall 018

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Oil & Grease [2][14]	------	------	------	Report	Report	mg/l	1 X Weekly	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Free Cyanide [4]	------	Report	lbs/day	------	Report	mg/l	1 X Monthly	See Part I.Q.
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp.
Copper [5]	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Mercury [5][6][7]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [12]	Grab
Final	0.00063	0.0016	lbs/day	1.3	3.2	ng/l	Bi-Monthly [12]	Grab
Temperature [3]	------	-------	--------	-------	Report	°F	2 X Weekly	6 Grabs/24-Hrs.
Total Residual Chlorine [11]	3.9	8.7 [8]	lbs/day	8	18	ug/l	Daily [9]	Grab

Table 2

	Quality or Concentration			Monitoring	Requirements
	Daily	Daily		Measurement	Sample
Parameter	Minimum	Maximum	Units	Frequency	Type
pH	6.0	9.0	s.u.	1 X Weekly	Grab

[1] The permittee may discharge noncontact cooling water from blast furnace and sintering operations only through Outfalls 015, 018, 019, and 035.

[2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[3] See Part III.A. of the permit for the Temperature Requirements.

[4] Cyanide shall be measured and reported as Available (Free) Cyanide. See Part I.Q. for additional requirements.

[5] The permittee shall measure and report identified metals as total recoverable metals.

[6] See Part I.R. for Mercury Monitoring Requirements.

[7] The permittee has up to a sixty (60) month schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[8] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 29.1 lbs/day.

[9] Monitoring for TRC shall be 1 X Daily during zebra or quagga mussel intake chlorination, and continue for three additional days after zebra or quagga mussel treatment has been completed. See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[10] See the Fact Sheet for the water treatment additives in use at Outfall 018 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 018, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[11] See Part I.G. of the permit for Pollutant Minimization Requirements.

[12] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

[13] See Part I.B. of the permit for the Narrative Water Quality Standards.

[14] If oil and grease is measured in the effluent in significant quantities, the source of such discharge is to be investigated and eliminated. The facility is required to investigate and eliminate any significant or measured concentration of oil and grease (quantities in excess of 5 mg/l). The intent of this requirement is to assure that oil and grease is not added to once-through cooling water in measurable quantities (5 mg/l).

8. During the period beginning on the effective date of this permit, the permittee is authorized to discharge blast furnace and sinter plant non-contact cooling water, storm water runoff, power station and No. 2 Q-BOP non-contact cooling water, CWT plant brine regenerant, turboboiler blowdown and steam condensate through Outfall 019 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][9][11]
Outfall 019

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Oil & Grease [12][14]	-------	-------	------	Report	Report	mg/l	1 X Weekly	Grab
Temperature [2]	--------	-------	------	-------	Report	°F	2 X Weekly	6 Grabs/24-Hrs.
Free Cyanide [3]	-------	Report	lbs/day	------	Report	mg/l	1 X Monthly	See Part I.Q.
Mercury [4][5][6]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [10]	Grab
Final	0.00053	0.0013	lbs/day	1.3	3.2	ng/l	Bi-Monthly [10]	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Phenols (4AAP)	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Comp.
Total Residual Chlorine [13]	3.3	7.4 [7]	lbs/day	8	18	ug/l	Daily [8]	Grab

Table 2

	Quality or Concentration			Monitoring	Requirements
	Daily	Daily		Measurement	Sample
Parameter	Minimum	Maximum	Units	Frequency	Type
pH	6.0	9.0	s.u.	1 X Weekly	Grab

[1] The permittee may discharge non-contact cooling waters from blast furnace and sintering operations only through Outfalls 015, 018, 019, and 035.

[2] See Part III.A. of the permit for the Temperature Requirements.

[3] Cyanide shall be measured and reported as Available (Free) Cyanide. See Part I.Q. for additional requirements.

[4] The permittee shall measure and report identified metals as total recoverable metals.

[5] See Part I.R. for Mercury Monitoring Requirements.

[6] The permittee has up to a sixty (60) month schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[7] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 24.7 lbs/day.

[8] Monitoring for TRC shall be 1 X Daily during zebra or quagga mussel intake chlorination, and continue for three additional days after zebra or quagga mussel treatment has been completed. See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[9] See the Fact Sheet for the water treatment additives in use at Outfall 019 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 019, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[10] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

[11] See Part I.B. of the permit for the Narrative Water Quality Standards.

[12] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[13] See Part I.G. of the permit for Pollutant Minimization Requirements.

[14] If oil and grease is measured in the effluent in significant quantities, the source of such discharge is to be investigated and eliminated. The facility is required to investigate and eliminate any significant or measured concentration of oil and grease (quantities in excess of 5 mg/l). The intent of this requirement is to assure that oil and grease is not added to once-through cooling water in measurable quantities (5 mg/l).

9. During the period beginning on the effective date of this permit, the permittee is authorized to discharge No. 1 BOP Shop non-contact cooling water, No.1 continuous caster non-contact cooling water, steam condensate, and storm water through Outfall 020 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][9][11]
Outfall 020

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Oil & Grease [2][13]	------	------	------	Report	Report	mg/l	1 X Weekly	Grab
Temperature [3]	-------	-------	-------	-------	Report	°F	2 X Weekly	6 Grabs/24-Hrs.
Lead [4]	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Zinc [4]	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Mercury [4][5][6]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [10]	Grab
Final	0.00087	0.0022	lbs/day	1.3	3.2	ng/l	Bi-Monthly [10]	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Total Residual Chlorine [12]	5.4	12 [7]	lbs/day	8	18	ug/l	Daily [8]	Grab

Table 2

	Quality or Concentration			Monitoring Requirements	
	Daily	Daily		Measurement	Sample
Parameter	Minimum	Maximum	Units	Frequency	Type
pH	6.0	9.0	s.u.	1 X Weekly	Grab

[1] There shall be no discharge of any steelmaking area process wastewater (steelmaking, vacuum degassing and continuous casting) or other process wastewaters from Outfall 020.

[2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[3] See Part III.A. of the permit for the Temperature Requirements.

[4] The permittee shall measure and report identified metals as total recoverable metals.

[5] See Part I.R. for Mercury Monitoring Requirements.

[6] The permittee has up to a sixty (60) month schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[7] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 40.3 lbs/day.

[8] Monitoring for TRC shall be 1 X Daily during zebra or quagga mussel intake chlorination, and continue for three additional days after zebra or quagga mussel treatment has been completed. See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[9] See the Fact Sheet for the water treatment additives in use at Outfall 020 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 020, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[10] Bimonthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

[11] See Part I.B. of the permit for the Narrative Water Quality Standards.

[12] See Part I.G. of the permit for Pollutant Minimization Requirements.

[13] If oil and grease is measured in the effluent in significant quantities, the source of such discharge is to be investigated and eliminated. The facility is required to investigate and eliminate any significant or measured concentration of oil and grease (quantities in excess of 5 mg/l). The intent of this requirement is to assure that oil and grease is not added to once-through cooling water in measurable quantities (5 mg/l).

10. During the period beginning on the effective date of this permit, the permittee is authorized to discharge air compressor cooling water, air conditioning condensates, steam condensate, and storm water runoff through Outfall 021 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][4][5]
Outfall 021

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	-	-	-	1 X Monthly	Estimate
Oil & Grease	------	------	------	-------	Report	mg/l	1 X Monthly	Grab
Total Residual Chlorine [6]	0.040	0.090 [2]	lbs/day	8	18	ug/l	Daily [3]	Grab
Ammonia (as N)	Report	Report	lba/day	Report	Report	ug/l	2 X Monthly	Grab

Table 2

	Quality or Concentration			Monitoring Requirements	
	Daily	Daily		Measurement	Sample
Parameter	Minimum	Maximum	Units	Frequency	Type
pH	6.0	9.0	s.u.	1 X Monthly	Grab

[1] There shall be no discharge of process wastewaters through this outfall.

[2] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.3 lbs/day.

[3] Monitoring for TRC shall be 1 X Daily during zebra or quagga mussel intake chlorination, and continue for three additional days after zebra or quagga mussel treatment has been completed. See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[4] See the Fact Sheet for the water treatment additives in use at Outfall 021 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 021, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[5] See Part I.B. of the permit for the Narrative Water Quality Standards.

[6] See Part I.G. of the permit for Pollutant Minimization Requirements.

11. During the period beginning on the effective date of this permit, the permittee is authorized to discharge air conditioning and steam condensates and storm water runoff through Outfall 023 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3]
Outfall 023

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	-	-	-	1 X Monthly	Estimate
Oil & Grease	------	------	------	-------	Report	mg/l	1 X Monthly	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	ug/l	2 X Monthly	Grab

Table 2

	Quality or Concentration					Monitoring	Requirements
	Daily	Daily				Measurement	Sample
Parameter	Minimum	Maximum	Units			Frequency	Type
pH	6.0	9.0	s.u.			1 X Monthly	Grab

[1] There shall be no discharge of process wastewaters through this outfall.

[2] See the Fact Sheet for the water treatment additives in use at Outfall 023 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 023, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[3] See Part I.B. of the permit for the Narrative Water Quality Standards.

14. During the period beginning on the effective date of this permit, the permittee is authorized to discharge air conditioning and steam condensates, and storm water runoff through Outfall 026 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3]
Outfall 026 (Inactive)

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	-	-	-	1 X Monthly	Estimate
Oil & Grease	------	------	------	-------	Report	mg/l	1 X Monthly	Grab

Table 2

	Quality or Concentration				Monitoring	Requirements
	Daily	Daily			Measurement	Sample
Parameter	Minimum	Maximum	Units		Frequency	Type
pH	6.0	9.0	s.u.		1 X Monthly	Grab

[1] US Steel shall notify the Compliance Evaluation Section of the Office of Water Quality (OWQ) at least 30 days prior to re-activation of this outfall.

[2] See Part I.B. of the permit for the Narrative Water Quality Standards.

[3] There shall be no discharge of process wastewaters through this outfall.

15. During the period beginning on the effective date of this permit, the permittee is authorized to discharge treated wastewater from steelmaking, vacuum degassing, continuous casting and hot forming process wastewaters (Internal Outfall 603), storm water runoff, non-contact cooling water and direct contact slab cooling water through Outfalls 028 and 030 to the Grand Calumet River. The permittee is authorized to discharge from Outfalls 028 & 030 (combined total) and reported as Outfall 600 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][9][11]
028/030 (Outfall 600)

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Total Suspended Solids	2,038	5,933	lbs/day	Report	Report	mg/l	5 X Weekly	24-Hr. Comp.
Oil & Grease [4]	1,274	2,807	lbs/day	Report	Report	mg/l	5 X Weekly	3 Grabs/ 24 Hr
Lead [3]	6.1	12	lbs/day	0.026	0.052	mg/l	2 X Weekly	24-Hr. Comp.
Zinc [3]	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Mercury [3][5]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [8]	Grab
Final [10]	0.00031	0.00075	lbs/day	1.3	3.2	ng/l	Bi-Monthly [8]	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Fluoride	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Total Residual Chlorine [12]	1.9	4.2 [6]	lbs/day	8	18	ug/l	Daily [7]	Grab
Temperature [2]	----------	----------	----------	----------	Report	°F	2 X Weekly	6 Grabs/24-Hrs.
Whole Effluent Toxicity			See Part I.L., Biomonitoring Requirements				Quarterly	24-Hr. Comp.

Table 2

	Quality or Concentration			Monitoring Requirements	
	Daily	Daily		Measurement	Sample
Parameter	Minimum	Maximum	Units	Frequency	Type
pH	6.0	9.0	s.u.	1 X Weekly	Grab

[1] The permittee shall measure on the same day and at the same time and report Outfalls 028 and 030 separately and also report as a combined total (Outfall 600).

[2] See Part III.A. of the permit for the Temperature Requirements.

[3] The permittee shall measure and report identified metals as <u>total recoverable metals</u>.

[4] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[5] See Part I.R. for Mercury Monitoring Requirements.

[6] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 14.1 lbs/day.

[7] Monitoring for TRC shall be 1 X Daily during zebra or quagga mussel intake chlorination, and continue for three additional days after zebra or quagga mussel treatment has completed. See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[8] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

[9] See the Fact Sheet for the water treatment additives in use at Outfall 028/030 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 028/030, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[10] The permittee has up to a sixty (60) month schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[11] See Part I.B. of the permit for the Narrative Water Quality Standards.

[12] See Part I.G. of the permit for Pollutant Minimization Requirements.

16. During the period beginning on the effective date of this permit, the permittee is authorized to discharge BOP (1-BOP and Q-BOP) treatment, vacuum degasser and continuous casting (1-Caster, 2-Caster A/B line, and 2-Caster C Line) treatment wastewater through Outfall 603 to the Grand Calumet River via Outfall 028/030. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to commingling with any other process or non-process waters. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1]
Internal Outfall 603

	Quantity or Loading				Quality or Concentration			Monitoring	Requirements
	Monthly	Daily			Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum		Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report		MGD	-	-	-	Daily	Continuous
Lead [2]	Report	Report	lbs/day	Report	Report	Report	mg/l	2 X Weekly[3]	24-Hr. Comp.
Zinc [2]	11.88	36.38	lbs/day	Report	Report	Report	mg/l	2 X Weekly[3]	24-Hr. Comp.

[1] Samples taken in compliance with the monitoring requirements above shall be taken at a point representative of the discharge but prior to entry into Outfalls 028/030. Separate samples and flow measurements shall be taken at the discharge of the No.1 Continuous Caster Scale Pit, the filtered blowdown from the No. 2 Continuous Caster, and the discharge of the No.1 and No.1A BOP Thickeners. The mass loadings from each monitoring point shall be calculated and added together to determine the daily and monthly average mass discharges.

[2] The permittee shall measure and report identified metals as total recoverable metals.

[3] Sampling at 603 for lead and zinc shall occur on the same day and at approximately at the same time as the sample taken at Outfalls 028 and 030.

17. During the period beginning on the effective date of this permit, the permittee is authorized to discharge miscellaneous non-contact cooling water, steam condensate, freeze protection water, and storm water through Outfall 032 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [3][4]
Outfall 032

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	-	-	-	1 X Monthly	Estimate
Oil & Grease	------	------	------	-------	Report	mg/l	1 X Monthly	Grab
Total Residual Chlorine [5]	0.020	0.045 [1]	lbs/day	8	18	ug/l	Daily [2]	Grab
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.

Table 2

	Quality or Concentration			Monitoring Requirements	
	Daily	Daily		Measurement	Sample
Parameter	Minimum	Maximum	Units	Frequency	Type
pH	6.0	9.0	s.u.	1 X Monthly	Grab

[1] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.15 lbs/day.

[2] Monitoring for TRC shall be 1 X Daily during zebra or quagga mussel intake chlorination, and continue for three additional days after zebra or quagga mussel treatment has completed. See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[3] See the Fact Sheet for the water treatment additives in use at Outfall 032 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 032, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[4] See Part I.B. of the permit for the Narrative Water Quality Standards.

[5] See Part I.G. of the permit for Pollutant Minimization Requirements.

18. During the period beginning on the effective date of this permit, the permittee is authorized to discharge non-contact cooling water from sheet and tin mills and the atmospheric gas plant, non-process wastewater from Railroad Kirk Yard, steam condensate, and storm water through Outfall 033 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][5][6]
Outfall 033

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	-	-	-	1 X Monthly	Estimate
Oil & Grease [2]	------	------	------	------	Report	mg/l	1 X Monthly	Grab
Phenols (4AAP)	-----	Report	lbs/day	------	Report	mg/l	1 X Monthly	24-Hr. Comp.
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
Total Residual Chlorine [7]	0.013	0.030 [3]	lbs/day	8	18	ug/l	Daily [4]	Grab

Table 2

	Quality or Concentration			Monitoring	Requirements
	Daily	Daily		Measurement	Sample
Parameter	Minimum	Maximum	Units	Frequency	Type
pH	6.0	9.0	s.u.	1 X Monthly	Grab

[1] There shall be no discharge of process wastewaters through Outfall 033.

[2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[3] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.1 lbs/day.

[4] Monitoring for TRC shall be 1 X Daily during zebra or quagga mussel intake chlorination, and continue for three additional days after zebra or quagga mussel treatment has completed. See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[5] See the Fact Sheet for the water treatment additives in use at Outfall 033 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 033, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage

rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[6] See Part I.B. of the permit for the Narrative Water Quality Standards.

[7] See Part I.G. of the permit for Pollutant Minimization Requirements.

19. During the period beginning on the effective date of this permit, the permittee is authorized to discharge treated wastewater from Internal Outfalls, 604, 605, and 606, non-contact cooling water from the finishing operations, non-contact cooling water from the ferrous chloride recycling discharge, steam condensate, and storm water runoff through Outfall 034 to the Grand Calumet River. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Grand Calumet River. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][6][10][13]
Outfall 034

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
$CBOD_5$ [4]								
Summer	1,334	2,669	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Winter	4,537	9,074	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Oil & Grease [5]	1,430	3,660	lbs/day	Report	Report	mg/l	5 X Weekly	3 Grabs/ 24 Hrs.
Total Suspended Solids	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Ammonia (as N)	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Lead [8]	2.52	5.85	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Zinc [8]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Copper [8]	3.8	8.7	lbs/day	0.018	0.041	mg/l	2 X Weekly	24-Hr. Comp.
Cadmium [8]	2.3	3.4	lbs/day	0.011	0.016	mg/l	1 X Monthly	24-Hr. Comp.
Nickel [8]	Report	Report	lbs/day	Report	Report	mg/l	1 X Quarterly[15]	24-Hr. Comp
Silver [8]	0.042	0.072	lbs/day	0.20	0.34	ug/l	2 X Monthly	24-Hr. Comp.
Total Chromium [8]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Mercury [8][11][12]								
Interim	Report	Report	lbs/day	Report	Report	ng/l	Bi-Monthly [14]	Grab
Final	0.00028	0.00068	lbs/day	1.3	3.2	ng/l	Bi-Monthly [14]	Grab
Phenols (4AAP)	26.00	39.00	lbs/day	Report	Report	mg/l	1 X Weekly	24-Hr. Comp.
Total Residual Chlorine	1.7	3.8 [9]	lbs/day	8	18	ug/l	See Footnote [7]	Grab
Temperature [3]	----------	----------	----------	----------	Report	°F	2 X Weekly	6 Grabs/24-Hrs.
Whole Effluent Toxicity [16]	------	------	------	3.6	------	TU_c	Quarterly [15]	24-Hr. Comp.

Table 2

	Quality or Concentration			Monitoring Requirements	
Parameter	Daily Minimum	Daily Maximum	Units	Measurement Frequency	Sample Type
pH	6.0	9.0	s.u.	1X Daily	Grab
Dissolved Oxygen	5.0		mg/l	1 X Weekly	Grab

[1] The permittee shall only discharge the effluents from Internal Outfalls 604, 605, and 606 through Outfall 034.

[2] The permittee shall monitor Outfalls 034, 604, 605, and 606 on the same days.

[3] See Part III.A. of the permit for the Temperature Requirements.

[4] Summer limitations apply from July 1 through September 30. Winter limitations apply from October 1 thorough June 30.

[5] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[6] The following wastewater treatment systems may be added to reduce the $CBOD_5$ on a continuous year-round basis:

(i) Internal Outfall 604- Chlorination (sodium hypochlorite) treatment.

(ii) Internal Outfall 605- Chlorination (sodium hypochlorite) treatment.

(iii) Outfall 034 – Sodium Bisulfite addition (de-chlorination).

[7] Continuous chlorination at the above outfalls is permitted on a year-round basis. The wastewater shall be de-chlorinated prior to discharge from Outfall 034. Monitoring for TRC shall be daily during zebra or quagga mussel intake chlorination, and 2 X Weekly during continuous chlorination treatment when the intake is not being treated for zebra mussels. See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[8] The permittee shall measure and report identified metals as <u>total recoverable metals</u>.

[9] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 12.7 lbs/day.

[10] See Part I.B. of the permit for the Narrative Water Quality Standards.

[11] See Part I.R. for Mercury Monitoring Requirements.

[12] The permittee has up to a sixty (60) month schedule of compliance as outlined in Part I.E. of the permit in which to meet the final effluent limitations for Mercury. Interim limitations shall apply until the final limits take effect.

[13] See the Fact Sheet for the water treatment additives in use at Outfall 034 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 034, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or

acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[14] Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year.

[15] Samples shall be taken once at any time during each of the four annual quarters:

(A) January-February-March;
(B) April-May-June;
(C) July-August-September; and
(D) October-November-December.

For quarterly monitoring, in the first quarter for example, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[16] See Part I.L. of the permit for Biomonitoring Requirements.

20. During the period beginning on the effective date of this permit, the permittee is authorized to discharge treated process wastewaters from cold rolling, acid pickling, alkaline cleaning, hot coating, electroplating, and hot strip mill oil cellars through Internal Outfall 604 to the Grand Calumet River via Outfall 034. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to commingling with any other process or non-process waters. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2]
Outfall 604

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Total Suspended Solids	2,901	6,455	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Oil & Grease	Report	Report	lbs/day	Report	Report	mg/l	5 X Weekly	3 Grabs/ 24 Hrs.
Total Recoverable Chromium[4]	28.25	45.77	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Zinc [4]	33.42	70.00	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Lead [4]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Total Cyanide [3]	10.74	19.83	lbs/day	Report	Report	mg/l	1 X Quarterly [7]	See Part I.Q.
Cadmium [4]	Report	Report	lbs/day	Report	Report	mg/l	1 X Quarterly [7]	24-Hr. Comp.
Hexavalent Chromium [6][8]	0.15	0.46	lbs/day	Report	Report	mg/l	1 X Weekly	Grab
Copper [4]	Report	Report	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Nickel [4]	39.32	65.76	lbs/day	Report	Report	mg/l	1 X Quarterly [7]	24-Hr. Comp.
Silver [4]	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24-Hr. Comp.
TTO [5]	------	35.19	lbs/day	-------	--------	-----	1 X Monthly	24-Hr. Comp.
Naphthalene	------	1.68	lbs/day	-------	Report	mg/l	2 X Weekly	24-Hr. Comp.
Tetrachloroethylene	-----	2.51	lbs/day	-------	Report	mg/l	2 X Weekly	2 Grabs/ 24 Hrs

[1] Bypasses of process wastewaters from the above sources around the Terminal Treatment Plant are permitted only in accordance with Section B.2., Part II of this permit. The permittee shall not use cyanide plating solutions in any metal finishing operations, unless expressly authorized by a modification of this permit.

[2] Samples taken in accordance with the monitoring requirements above shall be taken at a point representative of the discharge but prior to entry into Outfall 034.

[3] Cyanide shall be measured and reported as Total Cyanide. See Part I.Q. for additional requirements.

[4] The permittee shall measure and report the identified metals a <u>total recoverable metals</u>.

[5] The limitation for TTO (Total Toxic Organics) applies to the summation of all quantifiable values greater than 0.01 mg/l for all toxic organics listed under 40 CFR 433.11(e) which are reasonably expected to be present. This is a federal effluent guideline based limitation and is not an authorization to discharge toxic

organic compounds at levels which cause or may cause water quality violations. The discharge of organic compounds at level which cause or may cause water quality violations is prohibited. The intent of this limitation is to assure that any solvent or other products in use at the plant, which contain any of the listed toxic organic compounds, are disposed of properly, and not dumped, spilled, discharged or leaked.

Certification Statement

In lieu of monthly monitoring for TTO, the party responsible for signing the monthly discharge monitoring report (DMR) forms may make the following statement, as part of the DMR: "Based on my inquiry of the persons directly responsible for managing compliance with the permit limitations for TTO, I certify that, to the best of my knowledge and belief, no disposal of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the Toxic Organic Pollutant Management Plan submitted to the Compliance Evaluation Section of the Office of Water Quality, as required by this permit." The Certification Statement may not be used until completion of the Toxic Organic Pollutant Management Plan required by Part I.N. of this permit.

If the above mentioned responsible party is unable to make the above Certification Statement because of discharge or spills of any TTO compounds, the Permittee is required to notify IDEM in accordance with Part II.C.3 of this permit.

[6] Hexavalent Chromium shall be measured and reported as dissolved metal. The Hexavalent Chromium sample type shall be grab method. The maximum holding time for a Hexavalent Chromium sample is 24 hours (40 CFR 136.6 Table IB). Therefore, the grab sample must be analyzed within 24 hours.

[7] Samples shall be taken once at any time during each of the four annual quarters:

(A) January-February-March;
(B) April-May-June;
(C) July-August-September; and
(D) October-November-December.

For quarterly monitoring, in the first quarter for example, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[8] For purposes of calculating the monthly average mass, loadings to be reported on the DMR forms, concentration values below the limit of quantitation (LOQ) of

0.94 ug/l may be assigned a value of zero for purposes of calculating the monthly average mass limit.

21. During the period beginning on the effective date of this permit, the permittee is authorized to discharge treated process wastewaters from the 84" Hot Strip Mill through Internal Outfall 605 to the Grand Calumet River via Outfall 034. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to commingling with any other process or non-process waters. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1]
Outfall 605

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Total Suspended Solids	725	2,175	lbs/day	Report	Report	mg/l	2 X Weekly	24-Hr. Comp.
Oil & Grease	Report	1,450	lbs/day	-----	Report	mg/l	5 X Weekly	3 Grab/ 24-Hr

[1] The permittee may discharge process wastewater from the 84" Hot Strip Mill only through Outfall 605, and oil cellar discharges through Outfall 604 (Terminal Treatment Plant). Non-contact cooling water from the 84" Hot Strip Mill shall only be discharged through Outfall 039.

22. During the period beginning on the effective date of this permit, the permittee is authorized to discharge non-contact cooling water from steel finishing operations, miscellaneous non-process wastewater, and storm water runoff through Internal Outfall 606 to the Grand Calumet River via Outfall 034. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to commingling with other process or non-process waters. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][3]
Outfall 606

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	-	-	-	Daily	24-Hr. Total
Oil & Grease	----	----	----	-----	Report	mg/l	1 X Weekly	Grab
Total Chromium	----	----	----	-----	Report	mg/l	1 X Monthly	24-Hr. Comp
Zinc [4]	----	----	----	----	Report	mg/l	1 X Monthly	24-Hr. Comp
Lead [4]	----	----	----	----	Report	mg/l	1 X Monthly	24-Hr. Comp
Phenols (4AAP)	----	----	----	----	Report	mg/l	1 X Monthly	24-Hr. Comp

[1] The permittee may discharge non-process wastewaters associated with steel finishing operations via the 84" X 91" sewer to the final oil skimming basin at Outfall 034 for treatment prior to discharge through Outfall 034.

[2] The permittee shall monitor Outfall 606 for oil and grease, total chromium, lead, zinc, and phenols (4AAP) on the same days that monitoring for Outfalls 034, 604 and 605 occurs.

[3] Corrective action will be initiated after an investigation of any reported discharges of process wastewaters discharging from Outfall 606.

[4] The permittee shall measure and report the identified metals as total recoverable metals.

23. During the period beginning on the effective date of this permit, the permittee is authorized to discharge north blast furnace non-contact cooling water, No. 5 electric power station non-contact cooling water, Co-Generation Plant non-contact cooling water, steam condensate, and storm water runoff through Outfall 035 to Lake Michigan. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][6][7][10][11]
Outfall 035

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	-	-	-	Daily	Continuous
Oil & Grease [2] [13]	------	------	------	-------	Report	mg/l	1 X Weekly	Grab
Temperature [3]								
Discharge	------	------	------	------	Report	°F	1 X Hour	Continuous
Intake [4]	-------	------	------	------	Report	°F	1 X Hour	Continuous
Thermal Discharge		See Footnote [5] for Effluent Limitations				BTU/Hr	Daily	Continuous
Total Residual Chlorine [9][12]	10	24 [8]	lbs/day	8	18	ug/l	Daily	Grab

Table 2

	Quality or Concentration			Monitoring	Requirements
	Daily	Daily		Measurement	Sample
Parameter	Minimum	Maximum	Units	Frequency	Type
pH	6.0	9.0	s.u.	1 X Monthly	Grab

[1] The permittee may discharge non-contact cooling waters from blast furnace and sintering operations only through Outfalls 015, 018, 019, and 035.

[2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[3] See Part III.A.2. for additional temperature requirements.

[4] The permittee shall continuously monitor intake temperature at the No. 2 Pump Station.

[5] The effluent limitation is 1.211 billion BTU/hour as a maximum daily average. Monitoring shall include flow and intake and outlet temperatures as measured across the condensers on the continuous basis. The daily average BTU's/hour shall be calculated as follows: the BTU's/hour shall be determined once each hour and those volumes shall be averaged over a 24 our period for each day.

[6] There shall be no discharge of blast furnace or sinter plant process wastewaters or process wastewater residuals through Outfall 035.

[7] The permittee is prohibited from undertaking any deliberate action that would result in a degradation of water quality of the OSRW, unless the action complies with the applicable provisions of 327 IAC 5-2-11.7. In addition, whether or not this permit contains a limitation for a BCC, the permittee shall monitor for any BCC known or believed to be present in the discharge, from any point or nonpoint source over which the permittee has control. If there is an increase in loading of a BCC, above normal variability and attributable to a deliberate action, the permittee shall immediately notify IDEM of the increase. If IDEM determines the increased discharge of the BCC does not qualify under one of the exceptions under 327 IAC 5-2-11.7(b) or (c) and is attributable to a deliberate action of the permittee, the permittee shall eliminate the increase.

[8] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 78.5 lbs/day.

[9] Monitoring for TRC shall be 1 X Daily during zebra or quagga mussel intake chlorination, and continue for three additional days after zebra or quagga mussel treatment has been completed. See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[10] See the Fact Sheet for the water treatment additives in use at Outfall 035 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 035, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[11] See Part I.B. of the permit for the Narrative Water Quality Standards.

[12] See Part I.G. of the permit for Pollutant Minimization Requirements.

[13] If oil and grease is measured in the effluent in significant quantities, the source of such discharge is to be investigated and eliminated. The facility is required to investigate and eliminate any significant or measured concentration of oil and grease (quantities in excess of 5 mg/l). The intent of this requirement is to assure that oil and grease is not added to once-through cooling water in measurable quantities (5 mg/l).

24. During the period beginning on the effective date of this permit, the permittee is authorized to discharge non-contact cooling water from the 5-Stand Cold Reduction Mill, North Sheet Mill Annealing, the No. 6 and 8 Galvanized lines, air compressor non-contact cooling water, steam condensate, and storm water runoff through Outfall 037 to Lake Michigan. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][7][8][9]
Outfall 037

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow								
Interim	Report	Report	MGD	------	------	----	1 X Weekly	Estimate
Final [6]	Report	Report	MGD	-	-	-	Daily	Continuous
Temperature								
Discharge								
Interim	------	------	------	------	Report	°F	1 X Week	Grab
Final [6]	------	------	------	------	Report	°F	1 X Hour	Continuous
Intake	------	------	------	------	Report	°F	1 X Hour	Continuous
Thermal Discharge [6]					Report	BTU/Hr	Daily	Continuous
Oil & Grease [2] [11]	------	------	------	-----	Report	mg/l	1 X Weekly	Grab
Zinc [3]	-----	Report	lbs/day	-----	Report	mg/l	1 X Monthly	24-Hr. Comp.
Phenols (4AAP)	----	Report	lbs/day	-----	Report	mg/l	1 X Monthly	24-Hr. Comp.
Total Residual Chlorine [10]	0.20	0.45 [4]	lbs/day	8	18	ug/l	Daily [5]	Grab

Table 2

	Quality or Concentration			Monitoring	Requirements
Parameter	Daily Minimum	Daily Maximum	Units	Measurement Frequency	Sample Type
pH	6.0	9.0	s.u.	1 X Monthly	Grab

[1] There shall be no discharge of process wastewater through Outfall 037.

[2] Additional monitoring and reporting requirements are contained in Part I.O., Visible Oil Corrective Action Monitoring Program.

[3] The permittee shall measure and report the identified metals as total recoverable metals.

[4] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 1.5 lbs/day.

[5] Monitoring for TRC shall be 1 X Daily during zebra or quagga mussel intake chlorination, and continue for three additional days after zebra or quagga mussel

treatment has been completed. See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[6] See Part III.A.2. and A.3. for additional temperature requirements and compliance schedule for continuous monitoring requirements for temperature and flow.

[7] See the Fact Sheet for the water treatment additives in use at Outfall 037 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 037, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[8] The permittee is prohibited from undertaking any deliberate action that would result in a degradation of water quality of the OSRW, unless the action complies with the applicable provisions of 327 IAC 5-2-11.7. In addition, whether or not this permit contains a limitation for a BCC, the permittee shall monitor for any BCC known or believed to be present in the discharge, from any point or nonpoint source over which the permittee has control. If there is an increase in loading of a BCC, above normal variability and attributable to a deliberate action, the permittee shall immediately notify IDEM of the increase. If IDEM determines the increased discharge of the BCC does not qualify under one of the exceptions under 327 IAC 5-2-11.7(b) or (c) and is attributable to a deliberate action of the permittee, the permittee shall eliminate the increase.

[9] See Part I.B. of the permit for the Narrative Water Quality Standards.

[10] See Part I.G. of the permit for Pollutant Minimization Requirements.

[11] If oil and grease is measured in the effluent in significant quantities, the source of such discharge is to be investigated and eliminated. The facility is required to investigate and eliminate any significant or measured concentration of oil and grease (quantities in excess of 5 mg/l). The intent of this requirement is to assure that oil and grease is not added to once-through cooling water in measurable quantities (5 mg/l).

25. During the period beginning on the effective date of this permit, the permittee is authorized to discharge non-contact cooling water from the 84" Hot Strip Mill, non-contact cooling water from the reheat furnaces, emergency overflows from the 84" Hot Strip Mill roughing mill scale pit, steam condensate, non-contact cooling water from a cooling tower and storm water through Outfall 039 to Lake Michigan. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][5][6][7]
Outfall 039

Table 1

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow								
Interim	Report	Report	MGD	------	------	----	1 X Weekly	Estimate
Final [4]	Report	Report	MGD	------	------	-----	Daily	Continuous
Temperature								
Discharge								
Interim	------	------	------	------	Report	°F	1 X Week	Grab
Final [4]	------	------	------	------	Report	°F	1 X Hour	Continuous
Intake [4]	------	------	------	------	Report	°F	1 X Hour	Continuous
Thermal Discharge [4]					Report	BTU/Hr	Daily	Continuous
Oil & Grease [9]	------	------	------	-----	Report	mg/l	1 X Weekly	Grab
Total Residual Chlorine [8]	3.7	8.3 [2]	lbs/day	8	18	ug/l	Daily [3]	Grab

Table 2

	Quality or Concentration			Monitoring	Requirements
	Daily	Daily		Measurement	Sample
Parameter	Minimum	Maximum	Units	Frequency	Type
pH	6.0	9.0	s.u.	1 X Monthly	Grab

[1] There shall be no discharge of process wastewater through Outfall 039, except as provided for by Part II.B.1., 2. and 3.

[2] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 27.5 lbs/day.

[3] Monitoring for TRC shall be 1 X Daily during zebra or quagga mussel intake chlorination, and continue for three additional days after zebra or quagga mussel treatment has completed. See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[4] See Part III.A.2. and A.3. for additional temperature requirements and compliance schedule for continuous monitoring requirements for temperature and flow.

[5] See the Fact Sheet for the water treatment additives in use at Outfall 039 that have been reviewed and are approved for use at this facility by the Commissioner. In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 039, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[6] The permittee is prohibited from undertaking any deliberate action that would result in a degradation of water quality of the OSRW, unless the action complies with the applicable provisions of 327 IAC 5-2-11.7. In addition, whether or not this permit contains a limitation for a BCC, the permittee shall monitor for any BCC known or believed to be present in the discharge, from any point or nonpoint source over which the permittee has control. If there is an increase in loading of a BCC, above normal variability and attributable to a deliberate action, the permittee shall immediately notify IDEM of the increase. If IDEM determines the increased discharge of the BCC does not qualify under one of the exceptions under 327 IAC 5-2-11.7(b) or (c) and is attributable to a deliberate action of the permittee, the permittee shall eliminate the increase.

[7] See Part I.B. of the permit for the Narrative Water Quality Standards.

[8] See Part I.G. of the permit for Pollutant Minimization Requirements.

[9] If oil and grease is measured in the effluent in significant quantities, the source of such discharge is to be investigated and eliminated. The facility is required to investigate and eliminate any significant or measured concentration of oil and grease (quantities in excess of 5 mg/l). The intent of this requirement is to assure that oil and grease is not added to once-through cooling water in measurable quantities (5 mg/l).

27. During the period beginning on the effective date of this permit, the permittee is authorized to discharge non-contact cooling water from the ore yard rectifier system through Outfall(s) 041A and 041B to Lake Michigan. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the boat slip at Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2]
Outfall 041A & 041B

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	-	-	-	1 X Monthly	Estimate
Oil & Grease	------	------	------	Report	Report	mg/l	1 X Monthly	Grab
Total Residual Chlorine [4][5]	0.0057	0.013 [6]	lbs/day	8	18	ug/l	Daily	Grab
Zinc [3]	Report	Report	lbs/day	Report	Report	mg/l	1 X Monthly	Grab

Table 2

	Quality or Concentration			Monitoring	Requirements
	Daily	Daily		Measurement	Sample
Parameter	Minimum	Maximum	Units	Frequency	Type
pH	6.0	9.0	s.u.	1 X Monthly	Grab

[1] See Part I.B. of the permit for the Narrative Water Quality Standards.

[2] The permittee is prohibited from undertaking any deliberate action that would result in a degradation of water quality of the OSRW, unless the action complies with the applicable provisions of 327 IAC 5-2-11.7. In addition, whether or not this permit contains a limitation for a BCC, the permittee shall monitor for any BCC known or believed to be present in the discharge, from any point or nonpoint source over which the permittee has control. If there is an increase in loading of a BCC, above normal variability and attributable to a deliberate action, the permittee shall immediately notify IDEM of the increase. If IDEM determines the increased discharge of the BCC does not qualify under one of the exceptions under 327 IAC 5-2-11.7(b) or (c) and is attributable to a deliberate action of the permittee, the permittee shall eliminate the increase.

[3] The permittee shall measure and report the identified metals as total recoverable metals.

[4] Monitoring for TRC shall be 1 X Daily during zebra or quagga mussel intake chlorination, and continue for three additional days after zebra or quagga mussel treatment has completed. See Part I.P. for Zebra and Quagga Mussel Control and Chlorination for additional requirements.

[5] See Part I.G. of the permit for Pollutant Minimization Requirements.

[6] Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 0.043 lbs/day.

28. During the period beginning on the effective date of this permit, the permittee is authorized to discharge water intake screen backwash through Outfalls BW-1, BW-2, BW-3, BW-4, and BW-5 to Lake Michigan. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the boat slip at Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][4]

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	-------	Report	MGD	------	------	-----	Quarterly [3]	Estimate

[1] Discharge of water intake screen backwash is authorized from the following Lake Michigan water intakes:

BW-1 – No. 1 service water pumping station.
BW-2 – No. 2 service water pumping station.
BW-3 – No. 3 service water pumping station.
BW-4 – No. 4 service water pumping station.
BW-5 – Lakeside service water pumping station.

[2] There shall be no discharge of process wastewaters from Outfalls BW-1, BW-2, BW-3, BW-4, and BW-5.

[3] Samples shall be taken once at any time during each of the four annual quarters:

(A) January-February-March;
(B) April-May-June;
(C) July-August-September; and
(D) October-November-December.

For quarterly monitoring, in the first quarter for example, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[4] See Part I.B. of the permit for the Narrative Water Quality Standards.

B. NARRATIVE WATER QUALITY STANDARDS

At all times the discharge from any and all point sources specified within this permit shall not cause receiving waters:

1. including the mixing zone, to contain substances, materials, floating debris, oil, scum, or other pollutants:

   a. that will settle to form putrescent or otherwise objectionable deposits;

   b. that are in amounts sufficient to be unsightly or deleterious;

   c. that produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance;

   d. which are in amounts sufficient to be acutely toxic to , or to otherwise severely injure or kill aquatic life, other animals, plants, or humans;

   e. which are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.

2. outside the mixing zone, to contain substances in concentrations which on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.

C. MONITORING AND REPORTING

1. Representative Sampling

   Samples and measurements taken as required herein shall be representative of the volume and nature of the discharge.

2. Discharge Monitoring Reports

   a. For parameters with monthly average water quality based effluent limitations (WQBELs) below the LOQ, daily effluent values that are less than the limit of quantitation (LOQ) may be assigned a value of zero (0).

b. For all other parameters for which the monthly average WQBEL is equal to or greater than the LOQ, calculations that require averaging of measurements of daily values (both concentration and mass) shall use an arithmetic mean. When a daily discharge value is below the LOQ, a value of zero (0) shall be used for that value in the calculation to determine the monthly average unless otherwise specified or approved by the Commissioner.

c. Effluent concentrations less than the LOD shall be reported on the Discharge Monitoring Report (DMR) forms as < (less than) the value of the LOD. For example, if a substance is not detected at a concentration of 0.1 µg/l, report the value as <0.1 µg/l.

d. Effluent concentrations greater than or equal to the LOD and less than the LOQ that are reported on a DMR shall be reported as the actual value and annotated on the DMR to indicate that the value is not quantifiable.

e. Mass discharge values which are calculated from concentrations reported as less than the value of the limit of detection shall be reported as less than the corresponding mass discharge value.

f. Mass discharge values that are calculated from effluent concentrations greater than the limit of detection shall be reported as the calculated value.

g. See Part III.E of the permit for additional reporting requirements for values below the limit of quantitation (LOQ).

The permittee shall submit federal and state discharge monitoring reports to the Indiana Department of Environmental Management containing results obtained during the previous month which shall be postmarked no later than the 28th day of the month following each completed monitoring period. The first report shall be submitted by the 28th day of the month following the month in which the permit becomes effective.

The Regional Administrator may request the permittee to submit monitoring reports to the Environmental Protection Agency if it is deemed necessary to assure compliance with the permit.

3. Definitions

a. Monthly Average

(1) Mass Basis - The "monthly average" discharge means the total mass discharge during a calendar month divided by the number of days in the month that the production or commercial facility was discharging. Where less than daily samples is required by this permit, the monthly average discharge shall be determined by the summation of the measured daily mass discharges divided by the number of days during the calendar month when the measurements were made.

(2) Concentration Basis - The "monthly average" concentration means the arithmetic average of all daily determinations of concentration made during a calendar month. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during the calendar day.

b. "Daily Discharge"

(1) Mass Basis – The "daily discharge" means the total mass discharge by weight during any calendar day.

(2) Concentration Basis – The "daily discharge" means the average concentration over the calendar day or any twenty-four (24) hour period that reasonably represents the calendar day for the purposes of sampling.

c. "Daily Maximum"

(1) Mass Basis – The "daily maximum" means the maximum daily discharge mass value for any calendar day.

(2) Concentration Basis – The "daily maximum" means the maximum daily discharge value for any calendar day.

(3) Temperature Basis – The "daily maximum" means the highest temperature value measured for any calendar day.

d. A 24-hour composite sample consists of at least 3 individual flow-proportioned samples of wastewater, taken by the grab sample method or by an automatic sampler, which are taken at approximately equally spaced time intervals for the duration of the discharge within a 24-hour period and which are combined prior to analysis. A flow-proportioned composite sample may be obtained by:

(1) recording the discharge flow rate at the time each individual sample is taken,

(2) adding together the discharge flow rates recorded from each individuals sampling time to formulate the "total flow" value,

(3) the discharge flow rate of each individual sampling time is divided by the total flow value to determine its percentage of the total flow value,

(4) then multiply the volume of the total composite sample by each individual sample's percentage to determine the volume of that individual sample which will be included in the total composite sample.

e. Concentration -The weight of any given material present in a unit volume of liquid. Unless otherwise indicated in this permit, concentration values shall be expressed in milligrams per liter (mg/l).

f. The "Regional Administrator" is defined as the Region V Administrator, U.S. EPA, located at 77 West Jackson Boulevard, Chicago, Illinois 60604.

g. The "Commissioner" is defined as the Commissioner of the Indiana Department of Environmental Management, which is located at the following address: 100 North Senate Avenue, Indianapolis, Indiana 46204.

h. "Limit of Detection" or "LOD" means a measurement of the concentration of a substance that can be measured and reported with ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix. The LOD is equivalent to the method detection level or MDL.

i. "Limit of Quantitation" or "LOQ" means a measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calibrated at a specified concentration above the method detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for

monitoring of the contaminant. This term is also sometimes called limit quantification or quantification level.

j. "Method Detection Level" or "MDL" means the minimum concentration of an analyte (substance) that can be measured and reported with a ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) as determined by procedure set forth in 40 CFR 136, Appendix B. The method detection level or MDL is equivalent to the LOD.

4. Test Procedure

The analytical and sampling methods used shall conform to the current version of 40 CFR 136. Multiple editions of Standard Methods for the Examination of Water and Wastewater are currently approved for most methods, however, 40 CFR Part 136 should be checked to ascertain if a particular method is approved for a particular analyte. The approved methods may be included in the texts listed below. However, different but equivalent methods are allowable if they receive the prior written approval of the Commissioner and the U.S. Environmental Protection Agency.

a. Standard Methods for the Examination of Water and Wastewater 18th, 19th, or 20th Editions, 1992, 1995, or 1998, American Public Health Association, Washington, D.C. 20005.

b. A.S.T.M. Standards, Parts 23, Water; Atmosphere Analysis 1972 American Society for Testing and Materials, Philadelphia, PA 19103.

c. Methods for Chemical Analysis of Water and Wastes June 1974, Revised, March 1983, Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, OH 45202.

d. The following analytical methods and limits of detection and limits of quantitation shall be used:

Parameter [7]	Method [1]	Concentration (in ug/l)	
		LOD	(LOQ or ML)
Ammonia	SM 4500-NH3-G, EPA 350.1 (undistilled)	10	32
	SM 4500-NH3-G (w/prep SM 4500-NH3-B)	50	160

	(distilled)		
Benzene	EPA 624	0.5	1.6
Benzo(a)pyrene	610 HPLC [4]	0.023	0.073
Benzo(a)pyrene	610-GC/MS [4]	2.0 [5]	5.7
Cadmium	200.8	0.5	1.6
$CBOD_5$	SM 5210B	---	2000
Chloride	SM 4500 Cl E (Colorimetric Automated)	400	1300
	EPA 300.0 (Anions by IC)	20	64
	----	----	----
Copper	200.8	0.31	1.0
Cyanide, Total	SM 4500-CN-E [2] (colorimetric)	2.5	8.0
Cyanide, Free	4500-CN-I [2]	1	3.2
Fluoride	SM 4500-F-C (Ion Selective Mode)	31	100
	300.0	100	320
Hex. Chrome	218.6	0.3	0.94
Lead	200.8	0.31	1.0
Mercury [6]	1631	0.0002	0.0005
Naphthalene	610 (HPLC)	0.2	0.64
Naphthalene	610 MS, EPA625	2.0	6.4
Nickel	3113B	1	3.2
	200.8	0.5	1.6
Oil and Grease	1664	2000	5000
Phenols	420.4	2	6.4
Selenium	200.8	1	3.2
Silver	200.8	0.2	0.64
Sulfate	300.0	200	640
Tetrachloroethylene			
	624	0.4	1.3
Total Residual Chlorine	4500-CL-D,E	20	60
Total Residual Chlorine	4500-CL-G	20	60
Total Suspended Solids	SM 2540 D	0.64	2.0
Zinc	3120B	3.3	10
Zinc	200.8	1.0	3.2

[1] The methods listed are the EPA Methods referenced in 40 CFR 136 or approved Standard Methods (SM).
[2] American Public Health Association. 1992. Standard Methods for the Examination of Water and Wastewater. 18th Edition. Public Health Assoc., 1015 15th Street NW, Washington DC 20005.
[3] Not Used.
[4] Method 610-GC/MS shall be used at Outfall 501.
[5] MDL and resulting LOQ apply to Outfall 501.
[6] Revision E, or the most currently approved revision.
[7] Mass for each corresponding LOD and LOQ shall be determined using the corresponding concentration provided in the above table multiplied by 8.345 multiplied by the corresponding outfalls flow in MGD. For each outfall use the following in Million Gallons per Day (MGD):
Outfall 005 = 60.4; Outfall 010=0.83; Outfall 005 (with 010)= 61.2
Outfall 015=1.7; Outfall 018= 58.2; Outfall 019= 49.3;
Outfall 020= 80.6; Outfall 021= 0.6; Outfall 023= 0.1;
Outfall 028/030= 28.2; Outfall 032= 0.3; Outfall 033 = 0.2; Outfall 034= 25.4; Outfall 035= 156.8; Outfall 037= 3.0; Outfall 039= 55.0;
Outfall 041=0.086.

The permittee may determine a case-specific Limit of Detection (LOD) or Limit of Quantitation (LOQ) using the analytical method specified above, or any other test method which is approved by IDEM prior to use. The LOD shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the LOQ shall be set equal to 3.18 times the LOD. Other methods may be used if first approved by the IDEM.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The person(s) who performed the sampling or measurements;

c. The dates the analyses were performed;

d The person(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of all required analyses and measurements.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of this monitoring shall be included in the calculation and reporting of the values required in the monthly Discharge Monitoring Report (DMR). Such increased frequency shall also be indicated. Other monitoring data not specifically required in this permit (such as internal process or internal waste stream data) which is collected by or for the permittee need not be submitted unless requested by the Commissioner.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years. In cases where the original records are kept at another location, a copy of all such records shall be kept at the permitted facility. The three years shall be extended:

a. automatically during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or regarding promulgated effluent guidelines applicable to the permittee; or

b. as requested by the Regional Administrator or the Indiana Department of Environmental Management.

D. SCHEDULE OF COMPLIANCE – Outfall 005 Benzo(a)pyrene and Whole Effluent Toxicity (WET)

1. The permittee shall achieve compliance with the effluent limitations specified for Benzo(a)pyrene and WET at Outfall 005 as soon as possible but no later than thirty-four (34) months from the effective date of this permit in accordance with the following schedule:

a. The permittee shall submit a written Plan on the ability to achieve compliance with the new final effluent limits to the Compliance Evaluation Section of the Office of Water Quality (OWQ) nine (9) months from the effective date of this permit. IDEM will provide any comments within 30 days of receipt of the Plan and the permittee will implement the Plan immediately after receipt of IDEM's comments. The Plan shall include a description of the method(s) selected for meeting the newly imposed limitations for

Benzo(a)pyrene and WET at Outfall 005, in addition to any other relevant information. Relevant information should include but is not be limited to summaries of any pilot studies completed, determination of final process selection, a summary of the status of engineering design of the selected processes, project status, equipment procurement, delivery, construction, training, startup, etc. The Plan shall also include a specific time line specifying when each of the steps will be taken. The new effluent limits for Benzo(a)pyrene and WET are deferred for the term of this compliance schedule, unless the new effluent limits can be met at an earlier date. The permittee shall notify the Compliance Evaluation Section of OWQ as soon as the newly imposed effluent limit for Benzo(a)pyrene and/or WET can be met. Upon receipt of such notification by OWQ, the final limits listed in the corresponding discharge limitations Table for Benzo(a)pyrene and/or WET at Outfall 005 will become effective, but no later than thirty-four (34) months from the effective date of this permit. Monitoring and reporting of the effluent for this parameter is required during the interim period.

b. The permittee shall submit a progress report to the Compliance Evaluation Section of OWQ no later than eighteen (18) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve compliance with the final effluent limitations and whether the permittee is meeting the time line set out in the initial Plan.

c. The permittee shall submit a subsequent progress report to the Compliance Evaluation Section of OWQ no later than twenty – seven (27) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve compliance with the final effluent limitations and whether the permittee is meeting the time line set out in the initial Plan.

d. Within thirty (30) days of completion of construction, the permittee shall file with the Industrial NPDES Permits Section of OWQ a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

e. The permittee shall comply with the final effluent limitations for Benzo(a)pyrene and WET at Outfall 005 no later than thirty-four (34) months from the effective date of this permit.

2. If the permittee fails to comply with any deadline contained in the foregoing schedule, the permittee shall, within fourteen (14) days following the missed deadline, submit a written notice of noncompliance to the Compliance Evaluation Section of the OWQ stating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the date fixed for compliance with final effluent limitations.

E. SCHEDULE OF COMPLIANCE - Mercury

Except as provided below in Paragraph 2, U. S. Steel: (a) shall implement the following activities for evaluating, selecting, and installing mercury control technology; (b) shall achieve compliance with all final water quality based effluent limitations for mercury as soon as possible, but in no event later than sixty months after the effective date of this permit; and, (c) shall not be required to comply with the final water quality based effluent limitations for mercury until sixty months after the effective date of this permit.

1. Evaluating, Selecting and Installing Mercury Control Technology

A. Engineering Evaluation

a. As soon as possible, but in no event later than December 31, 2009, U. S. Steel shall complete an engineering review of mercury control technologies. The review shall include at a minimum, an assessment of all available and potential mercury control technologies including, but not limited to: ion exchange; carbon adsorption; chemical precipitation; filtration, including ultrafiltration; and biological treatment. The review shall identify sites where the evaluated technologies are currently implemented and shall provide information on the efficacy of the technologies in removing mercury at those sites.

b. As soon as possible, but in no event later than February 28, 2010, U. S. Steel shall submit to IDEM an Engineering Review Report summarizing findings from the review of mercury control technologies.

B. Selection of Mercury Control Technologies

a. By the end of 13 months from the effective date of the permit, U. S. Steel will submit to IDEM a progress report on mercury source reduction activities and selection of potential mercury control technologies conducted during the first 12 months of the permit.

b. For each outfall that is subject to water quality based effluent limitations for mercury, U. S. Steel shall complete the following as soon as possible,

but in no event later than twenty-four months after the effective date of this permit:

i. Develop a list of mercury control technologies that could be installed to reduce mercury discharges to meet the water quality based effluent limitations for the specific outfall at issue. In developing the list, U. S. Steel shall consider the engineering evaluation described above and a preliminary evaluation of the discharge characteristics of the specific outfall at issue. For each technology, U. S. Steel shall assess the technical feasibility to pilot test and install the technology for the outfall.

ii. Evaluate the following with regard to each mercury control technology listed for each specific outfall at issue:
    1. Technical implications or impact on products;
    2. Mercury reduction;
    3. Cross media impacts;
    4. Multi-pollutant co-control benefits;
    5. Energy efficiency or consumption impact;
    6. Service water contributions; and
    7. Economic considerations.

iii. Perform pilot testing of at least one listed mercury control technology for the specific outfall for which the technology was listed for purposes of obtaining additional information on the feasibility of installing the specific mercury control technology to reduce mercury discharges to meet the water quality based effluent limitations for the specific outfall at issue.

iv. Either select the specific mercury control technologies that shall be installed to reduce mercury discharges to meet the water quality based effluent limitations for the specific outfall at issue or determine that further pilot testing is necessary before a specific technology can be selected.

c. As soon as possible, but in no event later than twenty-six months after the effective date of this permit, U. S. Steel shall submit an Engineering Evaluation Report to IDEM describing (i) the results of the evaluation and pilot testing described above, (ii) the specific mercury control technology or technologies that were selected in accordance with Paragraph 1.B.b.iv to be installed or an explanation as to why further pilot testing is necessary before a specific technology can be selected for a specific outfall, (iii) why each specific technology was selected for each specific outfall, (iv) where the technologies shall be installed at the facility and why installation of the technologies at the locations shall reduce mercury discharges to meet the water quality based effluent

limitations for each specific outfall, (v) a schedule for installation of the technologies on an outfall-by-outfall basis, that is as expeditious as possible, and (vi) for all technologies that were considered during the Engineering Evaluation but not selected, an explanation as to why the specific technology was not selected.

d. To the extent that U. S. Steel is unable to select a specific technology in accordance with Paragraph 1.B.b.iv for installation to reduce mercury discharges to meet the water quality based effluent limitations for any specific outfall, U. S. Steel shall describe in the Engineering Evaluation Report the steps that it shall take (and a schedule for doing so) for each such outfall to (i) perform further pilot testing, (ii) select a specific technology or technologies in sufficient time to enable it to complete construction of the specific technology no later than fifty-eight months from the effective date of this permit, and complete commissioning/training/start-up of the selected technologies no later than sixty months from the effective date of this permit.

e. For each specific outfall for which U. S. Steel was unable to select a specific technology in accordance with Paragraph 1.B.b.iv, U. S. Steel shall select specific mercury control technologies that shall be installed to reduce mercury discharges to meet the water quality based effluent limitations for the specific outfall at issue in accordance with the schedule developed in accordance with Paragraph 1.B.d. Within two months of selecting specific mercury control technologies in accordance with this paragraph, U. S. Steel also shall submit to IDEM a Supplemental Engineering Evaluation Report pertaining to these outfalls describing and/or specifying:

(i) the results of any additional pilot testing that was performed,

(ii) the specific mercury control technology or technologies that were selected to be installed,

(iii) why each specific technology was selected for each specific outfall,

(iv) where the technologies shall be installed at the facility and why installation of the technologies at the locations shall reduce mercury discharges to meet the water quality based effluent limitations for each specific outfall,

(v) the date or dates when construction of the specific technology or technologies will commence;

(vi) the date or dates when construction of the specific technology will be completed, which shall be as soon as possible but no later than fifty-eight months from the effective date of this permit; and

(vii) the date or dates when commissioning/training/start-up of the selected technologies will be completed, which shall be as soon as possible but no later than sixty months from the effective date of this permit.

C. Installation of Mercury Control Technology

For each outfall for which technology was selected in accordance with Paragraph 1.B:

a. Following selection of a specific technology, U. S. Steel shall complete engineering design for each of the specific mercury control technologies that were selected for installation, and shall provide written notice to IDEM that it has done so.

b. By the end of 36 months from the effective date of the permit, U. S. Steel will submit a progress report as outlined in the Engineering Evaluation Report per Paragraph 1.B.c.

c. As soon as possible, but in no event later than forty-six months from the effective date of this permit, U. S. Steel shall commence construction on each of the specific mercury control technologies that were selected for installation in accordance with Paragraph 1.B.b.iv. For technologies that were selected in accordance with Paragraph 1.B.e, U. S. Steel shall commence construction in accordance with the schedule specified in the Supplemental Engineering Report in accordance with Paragraph 1.B.e. U. S. Steel shall provide written notice to IDEM whenever it commences construction in accordance with this paragraph.

d. As soon as possible, but in no event later than fifty-eight months from the effective date of this permit, U. S. Steel shall complete construction of each of the specific mercury control technologies that were selected for installation in accordance with Paragraph 1.B , and shall provide written notice to IDEM that it has done so.

e. As soon as possible, but in no event later than sixty months from the effective date of this permit, U. S. Steel shall complete commissioning, training and start-up of each of the specific mercury control technologies that were selected for installation in

accordance with Paragraph 1.B., and shall provide written notice to IDEM that it has done so.

2. Termination of Compliance Schedule

U. S. Steel is implementing mercury monitoring and mercury source reduction activities which may lead U. S. Steel to determine that it can achieve compliance with the final water quality based effluent limitations for mercury applicable to specific outfalls without constructing mercury control technology for the specific outfall or outfalls at issue in accordance with this compliance schedule. If U. S. Steel makes that determination, U. S. Steel may choose to terminate this compliance schedule as it relates to any specific outfall by providing written notice to IDEM of its decision. On and after the date of the written notice that U. S. Steel provides to IDEM, U. S. Steel shall be required to comply with the final water quality based effluent limitations for mercury applicable to the specified outfall or outfalls, but shall not be required to continue implementing the requirements of this compliance schedule pertinent to the specified outfall or outfalls at issue.

F. SCHEDULE OF COMPLIANCE – Outfall 010 Benzo(a)pyrene

1. The permittee shall achieve compliance with the effluent limitations specified for Benzo(a)pyrene at Outfall 010 as soon as possible but no later than twenty-four (24) months from the effective date of this permit in accordance with the following schedule:

   a. The permittee shall submit a written Plan on the ability to achieve compliance with the new final effluent limits to the Compliance Evaluation Section of the Office of Water Quality (OWQ) nine (9) months from the effective date of this permit. IDEM will provide any comments within 30 days of receipt of the Plan and the permittee will implement the Plan immediately after receipt of IDEM's comments. The Plan shall include a description of the method(s) selected for meeting the newly imposed limitation for Benzo(a)pyrene, in addition to any other relevant information. Relevant information should include but is not limited to a summary of the status of engineering design, overall project status, equipment procurement, delivery, construction, training, startup, etc. The progress report shall also include a specific time line specifying when each of the steps will be taken. The new effluent limits for Benzo(a)pyrene are deferred for the term of this compliance schedule, unless the new effluent limits can be met at an earlier date. The permittee shall notify the Compliance Evaluation Section of OWQ as soon as the newly imposed effluent limits for Benzo(a)pyrene can be met. Upon receipt of such notification by OWQ, the final limits for Benzo(a)pyrene will

become effective, but no later than twenty-four (24) months from the effective date of this permit. Monitoring and reporting of the effluent for these parameters is required during the interim period.

b. The permittee shall submit a progress report to the Compliance Evaluation Section of OWQ no later than eighteen (18) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve compliance with the final effluent limitations and whether the permittee is meeting the time line set out in the initial progress report.

c. Within thirty (30) days of completion of construction, the permittee shall file with the Industrial NPDES Permits Section of OWQ a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

d. The permittee shall comply with the final effluent limitations for Benzo(a)pyrene no later than twenty-four (24) months from the effective date of this permit.

2. If the permittee fails to comply with any deadline contained in the foregoing schedule, the permittee shall, within fourteen (14) days following the missed deadline, submit a written notice of noncompliance to the Compliance Evaluation Section of the OWQ stating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the date fixed for compliance with final effluent limitations.

G. POLLUTION MINIMIZATION PROGRAM

This permit contains water quality-based effluent limits for Total Residual Chlorine which are less than the listed limitation of quantitation (LOQ) value. The permittee is required to develop and conduct a pollutant minimization program (PMP) for Total Residual Chlorine. A PMP has already been conducted for Total Residual Chlorine at Outfall 034, therefore, a new PMP at Outfall 034 will not be required for Total Residual Chlorine. One basic PMP for TRC can be submitted for all affected Outfalls. If the PMP submitted previously for Outfall 034 incorporates the PMP requirements that will be in essence the same as for the other US Steel outfalls covered in this permit then all USS will need to do to meet this requirement is to re-submit that PMP along with a letter to that effect and separate PMP's for the remaining outfalls will not be required.

The laboratory US Steel utilizes to measure selenium has been capable of measuring down to a level that is currently below the water quality based effluent limit. As long as the laboratory is capable of demonstrating the case-specific

LOD of 1.0 ug/l using Test Method 270.2, the pollutant minimization program remains suspended for Selenium at Outfall 005. If it is determined that the case-specific LOD is invalid then the original PMP requirements shall be re-implemented for Selenium at Outfall 005.

1. The goal of the pollutant minimization program shall be to maintain the effluent at or below the WQBEL. The pollutant minimization program shall include, but is not limited to, the following:

    a. Submit a control strategy designed to proceed toward the goal within 180 days of the effective date of this permit.

    b. Implementation appropriate cost-effective control measures, consistent with the control strategy within 365 days of the effective date of this permit.

    c. Monitor as necessary to record the progress toward the goal. Potential sources of the pollutant shall be monitored on a semi-annual basis. Quarterly monitoring of the influent of the wastewater treatment system is also required. The permittee may request a reduction in this monitoring requirement after four quarters of monitoring data.

    d. Submit an annual status to the Commissioner at the address listed in Part I.C.3.g. to the attention of the Office of Water Quality, Compliance Evaluation Section, by January 31 of each year that includes the following information:

        (i) All minimization program monitoring results for the previous year.

        (ii) A list of potential sources of the pollutant.

        (iii) A summary of all actions taken to reduce or eliminate the identified sources of the pollutant.

    e. A pollution minimization program may include the submittal of pollution prevention strategies that use changes in production process technology, materials, processes, operations, or procedures to reduce or eliminate the source of the pollutant.

2. No pollution minimization program is required if the permittee demonstrates that the discharge of a pollutant with a WQBEL below the LOQ is reasonably expected to be in compliance with the WQBEL at the

point of discharge into the receiving water. This demonstration may include, but is not limited to, the following:

a. Treatment information, including information derived from modeling the destruction of removal of the pollutant in the treatment process.

b. Mass balance information.

c. Fish tissue studies or other biological studies.

3. In determining appropriate cost-effective control measures to be implemented in a pollution minimization program, the following factors may be considered:

a. Significance of sources.

b. Economic and technical feasibility.

c. Treatability.

H. REOPENING CLAUSES

This permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing:

1. to comply with any applicable effluent limitation or standard issued or approved under 301(b)(2)(C),(D) and (E), 304 (b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:

a. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

b. controls any pollutant not limited in the permit.

2. to incorporate any of the reopening clause provisions cited at 327 IAC 5-2-16.

3. to include limitations for specific toxicants if the results of the biomonitoring and/or the TRE study indicate that such limitations are necessary to meet Indiana Water Quality Standards.

4. After reviewing the temperature monitoring data as required in Part III of the permit, the IDEM reserves the right to reopen the permit and, after

public notice and opportunity for hearing, to establish more appropriate temperature requirements.

5. to include a case-specific Limit of Detection (LOD) and/or Limit of Quantitation (LOQ). The permittee must demonstrate that such action is warranted in accordance with the procedures specified under Appendix B, 40 CFR Part 136, using the most sensitive analytical methods approved by EPA under 40 CFR Part 136, or approved by the Commissioner.

6. To revise (such as more or less frequent monitoring) or remove the requirements of the pollutant minimization program (Part I.G.) if supported by information generated as a result of this program.

7. To incorporate effluent limitations reflecting the results of a TMDL or a revised wasteload allocation if the IDEM determines that such effluent limitations are needed to assure that State Water Quality Standards are met in the receiving stream.

8. To include revisions based upon site specific studies. The permittee shall submit work plans to conduct such site-specific studies before initiation of the study. Workplans must be approved by IDEM and the results of all such studies must be approved by IDEM and possibly EPA. Any necessary rulemaking must be completed before the permit may be modified to reflect the results of the studies.

9. To include a monitoring waiver for total cyanide and silver at Outfall 604 if the IDEM determines that such a waiver is appropriate after the review of at least twelve (12) months of monitoring data.

10. To modify the monitoring frequency for $CBOD_5$ after a review of twelve months of data at Outfalls 607 and 015.

I. SANITARY LIFT STATION EMERGENCY OVERFLOWS

1. Discharges from sanitary sewer system lift stations or any other portion of the sanitary sewer system are expressly prohibited. Should any discharge occur, the permittee shall notify the Compliance Evaluation Section within the Office of Water Quality within 24 hours and in writing within five days of the event in accordance with Part II.C.4. The correspondence shall include a description of the duration and cause of the discharge as well as the remedial action taken to eliminate it. The duration and estimated volume of the discharge shall also be reported on the Discharge Monitoring Report. The permittee shall comply with any other relevant provision of its permit in the event of a discharge, including 327 IAC 5-2-8(3).

2. The above stipulations apply to the following sanitary lift stations:

Lift Station	Discharge Point
SOF-6	Outfall 018
SOF-11	Outfall 023
SOF-3	Outfall 032
SOF-51	Outfall 033
SOF-1	Direct to Grand Calumet River
SOF-2	Grand Calumet River via GW-11 Pumping Station
SOF-4	Grand Calumet River via GW-10 Pumping Station
SOF-5	Direct to Lake Michigan
SOF-17	Grand Calumet River via GW-10 Pumping Station

J. STORM WATER MONITORING AND NON-NUMERIC CONDITIONS

1. Beginning on the effective date the permittee shall conduct storm water monitoring for the storm water discharge points set out in Paragraph 2, of this section on a semi-annual basis.

2. Storm Water Monitoring:

(a) Storm Water Monitoring Points:

SW-01	DA #11	East Side of Slip (LM)
SW-02	DA #11	West Side of Slip (LM)
SW-08	DA #32	Virginia Tunnel Drain (GCR)
SW-11		Broadway Tunnel Drain (GCR)
SW-06	DA #29	Railroad Lines (LM)
SW-12 (Railroad Kirk Yard)	DA #22	Outfall 034 Channel (GCR)
Outfall 032	DA #20	Bar Mill and Billet Storage Areas (GCR)
Outfall 033	DA #21	Tin Plate Areas, Atmospheric Gas Plant, Sheet Mill (GCR)

DA – Drainage Area
GCR – Grand Calumet River
LM – Lake Michigan

(b) Monitoring requirements applicable to all points listed above:

Oil & Grease, Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), Total Kjeldahl Nitrogen, Nitrite Plus Nitrate Nitrogen, Total Phosphorus, zinc, and pH.

(c) Additional monitoring requirements for specific outfalls are:

Monitoring Points SW-01, 02, 06, 08, 11, and SW-12 - Ammonia (as N), lead, and copper.

Monitoring Points SW-02 – Iron and Manganese.

(d) For all point source discharges of storm water see Part I.B. of the permit for the Narrative Water Quality Standards.

(e) In the event storm water runoff is not discharged from the same locations monitored for in the storm water application (2F) dated March 1999, the permittee shall monitor storm water runoff from a point or points representative of the discrete storm water drainage areas illustrated in the application.

(f) Areas no longer subject to Storm Water requirements:

DA #1, #3, #4 Coal Handling Yard - Mason Basin #5 does not discharge to waters of the State. SW-10 - Tennessee Drain (Redirected to the Blast Furnace Recycle Closed Loop) does not discharge to waters of the State.

(g) Monitoring Pollutant Reduction Measures:

This permit stipulates a pollutant baseline concentration that shall be used as a means for comparison of future discharge concentrations. Baseline monitoring will be on a semi-annual basis and will provide a basis for the facility to know when additional corrective measures are necessary.

US Steel will use the previous five years of stormwater data from the effective date of the permit to statistically determine the initial baseline concentration for total recoverable zinc, total suspended solids, and COD. New baseline concentrations shall be statistically re-calculated using a five year rolling dataset whenever the semi-annual concentration(s) is less than the existing baseline concentration(s). A new baseline exceeding an existing baseline will default to the existing baseline until the next re-calculation. A sample result exceeding an existing baseline at the time of comparison shall never be included in a baseline recalculation.

Stormwater monitoring data collected during the permit term shall be compared to the baseline concentrations to determine if the control measures being implemented at the site result in an improvement from the baseline established by the permittee. If the sample result exceeds the baseline concentration, the permittee must take corrective actions in Part

J.7.b. of the permit. Follow-up sampling should occur as soon as possible after implementation of corrective actions.

An exceedance of a baseline concentration is not a permit violation. However, failing to take the corrective actions in Part J.7 as a result of a baseline concentration exceedance is a violation of the permit. The permittee shall strive for continuous improvement from the baseline until it has been demonstrated that the permittee has implemented the best management practice to meet the provisions in Part J.5. of this permit. This permit also requires an annual review of the selection, design, installation, and implementation of your control measures (See Part J.6).

The permittee shall retain any and all records related to this documentation within the SWPPP. In addition, this same information must also be submitted to the Industrial NPDES Permit Section on an annual basis.

(h) Parameters for determining baseline concentrations:

Monitoring Parameters		
Parameter	Outfalls	Monitoring Concentration
Total Recoverable Zinc	All stormwater locations in J.2.	Report mg/l
Total Suspended Solids	All stormwater locations in J.2.	Report mg/l
COD	All stormwater locations in J.2	Report mg/l

2.5 Control Measures and Effluent Limits

In the technology-based limits included in Part J.3-5., the term "minimize" means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice.

3. Control Measures

Select, design, install, and implement control measures (including best management practices) to address the selection and design considerations in Part J.4 to meet the non-numeric effluent limits in Part J.5. The selection, design, installation, and implementation of these control measures must be in accordance with good engineering practices and manufacturer's specifications. This also includes the BMP requirements for the Coal Processing Area. Any deviation from the manufacturer's specifications shall be documented. If the control measures are not achieving their intended effect in minimizing pollutant

discharges, the control measures must be modified as expeditiously as practicable. Regulated stormwater discharges from the facility include stormwater run-on that commingles with stormwater discharges associated with industrial activity at the facility.

4. Control Measure Selection and Design Considerations

When selecting and designing control measures consider the following:

a. preventing stormwater from coming into contact with polluting materials is generally more effective, and cost-effective, than trying to remove pollutants from stormwater;

b. use of control measures in combination is more effective than use of control measures in isolation for minimizing pollutants in stormwater discharge;

c. assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures that will achieve the limits in this permit;

d. minimizing impervious areas at your facility and infiltrating runoff onsite (including bioretention cells, green roofs, and pervious pavement, among other approaches), can reduce runoff and improve groundwater recharge and stream base flows in local streams, although care must be taken to avoid ground water contamination;

e. flow can be attenuated by use of open vegetated swales and natural depressions;

f. conservation and/or restoration of riparian buffers will help protect streams from stormwater runoff and improve water quality; and

g. use of treatment interceptors (e.g., swirl separators and sand filters) may be appropriate in some instances to minimize the discharge of pollutants.

5. Technology-Based Effluent Limits (BPT/BAT/BCT): Non-Numeric Effluent Limits

a. Minimize Exposure

Minimize the exposure of raw, final, or waste materials to rain,

snow, snowmelt, and runoff. To the extent technologically available and economically practicable and achievable, either locate industrial materials and activities inside or protect them with storm resistant coverings in order to minimize exposure to rain, snow, snowmelt, and runoff (although significant enlargement of impervious surface area is not recommended). In minimizing exposure, pay particular attention to the following areas:

Loading and unloading areas: locate in roofed or covered areas where feasible; use grading, berming, or curbing around the loading area to divert run-on; locate the loading and unloading equipment and vehicles so that leaks are contained in existing containment and flow diversion systems.

Material storage areas: locate indoors, or in roofed or covered areas where feasible; install berms/dikes around these areas; use dry cleanup methods.

Note: Industrial materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged to receiving waters.

b. Good Housekeeping

Keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and stowing materials in appropriate containers.

As part of the developed good housekeeping program, include a cleaning and maintenance program for all impervious areas of the facility where particulate matter, dust, or debris may accumulate, especially areas where material loading and unloading, storage, handling, and processing occur; and where practicable, the paving of areas where vehicle traffic or material storage occur but where vegetative or other stabilization methods are not practicable (institute a sweeping program in these areas too). For unstabilized areas where sweeping is not practicable, consider using stormwater management devices such as sediment traps, vegetative buffer strips, filter fabric fence, sediment filtering boom, gravel outlet protection, or other equivalent measures that effectively trap or remove sediment.

c. Maintenance

Maintain all control measures which are used to achieve the effluent limits required by this permit in effective operating condition. Nonstructural control measures must also be diligently maintained (e.g., spill response supplies available, personnel appropriately trained). If control measures need to be replaced or repaired, make the necessary repairs or modifications as expeditiously as practicable.

d. Spill Prevention and Response Procedures

You must minimize the potential for leaks, spills and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, you must implement:

(1) Procedures for plainly labeling containers (e.g., "Used Oil", "Spent Solvents", "Fertilizers and Pesticides", etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;

(2) Preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;

(3) Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect or respond to a spill or lead must be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of your storm water pollution prevention team; and

(4) Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies. State or local requirements may necessitate reporting spills or discharges to local emergency response, public health, or drinking water supply agencies. Contact information must be in locations that are readily accessible and available.

(5) Procedures for documenting where potential spills and leaks could occur that could contribute pollutants to

stormwater discharges, and the corresponding outfalls that would be affected by such spills and leaks.

(6) A procedure for documenting all significant spills and leaks of oil or toxic or hazardous pollutants that actually occurred at exposed areas, or that drained to a stormwater conveyance.

e. Erosion and Sediment Controls

Through the use of structural and/or non-structural control measures stabilize, and contain runoff from, exposed areas to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants. Among other actions to meet this limit, place flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion and/or settle out pollutants. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to check out information from both the State and EPA websites. The following two websites are given as information sources: http://www.in.gov/idem/4899.htm and http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm

f. Management of Runoff

Divert, infiltrate, reuse, contain or otherwise reduce stormwater runoff, to minimize pollutants in the discharge.

g. Salt Storage Piles or Piles Containing Salt

Enclose or cover storage piles of salt, or piles containing salt, used for deicing or other commercial or industrial purposes, including maintenance of paved surfaces. You must implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. Piles do not need to be enclosed or covered if storm water runoff from the piles is not discharged.

h. Waste, Garbage, and Floatable Debris

Ensure that waste, garbage, and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged.

i. Employee Training

Train all employees who work in areas where industrial material or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel), including all members of your Pollution Prevention Team. Training must cover the specific control measures used to achieve the effluent limits in this part, and monitoring, inspection, planning, reporting, and documentation requirements in other parts of this permit

j. Non-Stormwater Discharges

You must determine if any non-stormwater discharges not authorized by an NPDES permit exist. Any non-stormwater discharges discovered must either be eliminated or modified into this permit.

k. Dust Generation and Vehicle Tracking of Industrial Materials

You must minimize generation of dust and off-site tracking of raw, final, or waste materials.

6. Annual Review

At least once every 12 months, you must review the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the effluent limitations in this permit. You must document the results of your review in a report that shall be retained within the SWPPP. You must also submit the report to the Industrial NPDES Permit Section on an annual basis.

7. Corrective Actions – Conditions Requiring Review

a. If any of the following conditions occur, you must review and revise the selection, design, installation, and implementation of your control measures to ensure that the condition is eliminated and will not be repeated:

(1) an unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this NPDES permit) occurs at this facility;

(2) it is determined that your control measures are not stringent enough for the discharge to meet applicable water quality standards;

(3) it is determined in your routine facility inspection, an inspection by EPA or IDEM, comprehensive site evaluation, or the Annual Review required in Part J.6 that modifications to the control measures are necessary to meet the effluent limits in this permit or that your control measures are not being properly operated and maintained; or

(4) Upon written notice by the Commissioner that the control measures prove to be ineffective in controlling pollutants in storm water discharges exposed to industrial activity.

b. If any of the following conditions occur, you must review and revise the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the effluent limits in this permit:

(1) sampling results in accordance with Part J.2(g) show an exceedance of a baseline concentration; or

(2) construction or a change in design, operation, or maintenance at your facility that significantly changes the nature of pollutants discharged in stormwater from your facility, or significantly increases the quantity of pollutants discharge.

8. Corrective Action Deadlines

You must document your discovery of any of the conditions listed in Part I.J.7 within thirty (30) days of making such discovery. Subsequently, within one-hundred and twenty (120) days of such discovery, you must document any corrective action(s) to be taken to eliminate or further investigate the deficiency or if no corrective action is needed, the basis for that determination. Specific documentation required within 30 and 120 days is detailed below. If you determine that changes to your control measures are necessary following your review, any modifications to your control measures must be made before the next storm event if possible, or as soon as practicable following that storm event. These time intervals are not grace periods, but schedules considered reasonable for the documenting of your findings and for making repairs and improvements. They are included in this permit to ensure that the conditions prompting

the need for these repairs and improvements are not allowed to persist indefinitely.

9. Corrective Action Report

Within 30 days of a discovery of any condition listed in Part I.J.7, you must document the following information:

a. Brief description of the condition triggering corrective action;

b. Date condition identified; and

c. How deficiency identified.

Within 120 days of discovery of any condition listed in Part I.J.7, you must document the following information:

a. Summary of corrective action taken or to be taken (or, for triggering events identified in Part I.J.7.e, where you determine that corrective action is not necessary, the basis for this determination)

b. Notice of whether SWPPP modifications are required as a result of this discovery or corrective action;

c. Date corrective action initiated; and

d. Date corrective action completed or expected to be completed.

10. Inspections

The inspections in this part must be conducted at this facility.

a. At a minimum, quarterly inspections of the stormwater management measures and stormwater run-off conveyances. The routine inspections must be performed by qualified personnel with at least one member of your storm water pollution prevention team. Inspections must be documented and either contained in, or have the on-site record keeping location referenced in, the SWP3.

b. Routine Facility Inspection Documentation – You must document the findings of each routine facility inspection performed and maintain this documentation with your SWPPP or have the on-site record keeping location referenced in the SWPPP. At a minimum, your documentation must include:

(1) The inspection date and time;

(2) The name(s) and signature(s) of the inspectors;

(3) Weather information and a description of any discharges occurring at the time of the inspection;

(4) Any previously unidentified discharges of pollutants from the site;

(5) Any control measures needing maintenance or repairs;

(6) Any failed control measures that need replacement;

(7) Any incidents of noncompliance observed; and

(8) Any additional control measures needed to comply with the permit requirements.

Any corrective action required as a result of a routine facility inspection must be performed consistent with Part I.J.7 of this permit.

c. Comprehensive Site Compliance Evaluation – Qualified personnel shall conduct a comprehensive site compliance evaluation, at least once per year, to confirm the accuracy of the description of potential pollution sources contained in the plan, determine the effectiveness of the plan, and assess compliance with the permit. Such evaluations shall provide:

(1) Areas contributing to a stormwater discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measure, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

As part of the routine inspections, address all potential

sources of pollutants, including (if applicable) air pollution control equipment (e.g., baghouses, electrostatic precipitator, scrubbers, and cyclones), for any signs of degradation (e.g., leaks, corrosion, or improper operation) that could limit their efficiency and lead to excessive emissions. Considering monitoring air flow at inlets and outlets (or use equivalent measures) to check for leaks (e.g., particulate deposition) or blockage in ducts. Also inspect all process and material handling equipment (e.g., conveyors, cranes, and vehicles) for leaks, drips, or the potential loss of material; and material storage areas (e.g., piles, bins, or hoppers for storing coke, coal, scrap, or slag, as well as chemicals stored in tanks and drums) for signs of material loss due to wind or stormwater runoff.

(2) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part I.K.2.b of this permit and pollution prevention measures and controls identified in the plan in accordance with Part I.J.5. of this permit shall be revised as appropriate within the timeframes contained in Part I.J.8 of this permit.

(3) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with the above paragraph must be documented and either contained in, or have on-site record keeping location referenced in, the SWP3 at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with the signatory requirements of Part II.C.6 of this permit.

(4) Where compliance evaluation schedules overlap the inspections required under Part I.K.2.c.(1)(D), the compliance evaluation may be conducted in place of one such inspection.

K. STORM WATER POLLUTION PREVENTION PLAN

1. Development of Plan

Within 12 months from the effective date of this permit, the permittee is required to revise and update the current Storm Water Pollution Prevention Plan (SWP3) for the permitted facility. The plan shall at a minimum include the following:

a. Identify potential sources of pollution, which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. Storm water associated with industrial activity (defined in 40 CFR 122.26(b)(14)) includes, but is not limited to, the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or materials storage areas at an industrial plant;

b. Describe practices and measure to be used in reducing the potential for pollutants to be exposed to storm water; and

c. Assure compliance with the terms and conditions of this permit.

2. Contents

The plan shall include, at a minimum, the following items:

a. Pollution Prevention Team -The plan shall list, by position title, the member or members of the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the storm water pollution prevention plan (SWP3) and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each storm water pollution prevention team member. Each member of the stormwater pollution prevention team must have ready access to either an electronic or paper copy of applicable portions of this permit and your SWPPP.

b. Description of Potential Pollutant Sources – The plan shall provide a description of areas at the site exposed to industrial activity and have a reasonable potential for storm water to be exposed to pollutants. The plan shall identify all activities and significant materials (defined in 40 CFR 122.26(b)), which may potentially be significant pollutant sources. As a minimum, the plan shall contain the following:

(1) A soils map indicating the types of soils found on the facility property and showing the boundaries of the facility property.

(2) A graphical representation, such as an aerial photograph or site layout maps, drawn to an appropriate scale, which contains a legend and compass coordinates, indicating, at a minimum, the following:

(A) All on-site storm water drainage and discharge conveyances, which may include pipes, ditches, swales, and erosion channels, related to a storm water discharge.

(B) Known adjacent property drainage and discharge conveyances, if directly associated with run-off from the facility.

(C) All on-site and known adjacent property water bodies, including wetlands and springs.

(D) An outline of the drainage area for each outfall.

(E) An outline of the facility property, indicating directional flows, via arrows, of surface drainage patterns.

(F) An outline of impervious surfaces, which includes pavement and buildings, and an estimate of the impervious and pervious surface square footage for each drainage area placed in a map legend.

(G) On-site injection wells, as applicable.

(H) On-site wells used as potable water sources, as applicable.

(I) All existing major structural control measures to reduce pollutants in storm water run-off.

(J) All existing and historical underground or aboveground storage tank locations, as applicable.

(K) All permanently designated plowed or dumped snow storage locations.

(L) All loading and unloading areas for solid and liquid bulk materials.

(M) All existing and historical outdoor storage areas for raw materials, intermediary products, final products, and waste materials. Include materials handled at the site that potentially may be exposed to precipitation or runoff, areas where deposition of particulate matter from process air emissions or losses during material-handling activities.

(N) All existing or historical outdoor storage areas for fuels, processing equipment, and other containerized materials, for example, in drums and totes.

(O) Outdoor processing areas.

(P) Dust or particulate generating process areas.

(Q) Outdoor assigned waste storage or disposal areas.

(R) Pesticide or herbicide application areas.

(S) Vehicular access roads.

(T) Identify any storage or disposal of wastes such as spent solvents and baths, sand, slag and dross; liquid storage tanks and drums; processing areas including pollution control equipment (e.g., baghouses); and storage areas of raw material such as coal, coke, scrap, sand, fluxes, refractories, or metal in any form. In addition, indicate where an accumulation of significant amounts of particulate matter could occur from such sources as furnace or oven emissions, losses from coal and coke handling operation, etc., and could result in a discharge of pollutants.

The mapping of historical locations is only required if the historical locations have a reasonable potential for stormwater exposure to historical pollutants.

(3) An area site map that indicates:

(A) The topographic relief or similar elevations to determine surface drainage patterns;

(B) The facility boundaries;

(C) All receiving waters; and

(D) All known drinking water wells; and

Includes at a minimum, the features in clauses (A), (C), and (D) within a one-fourth (1/4) mile radius beyond the property boundaries of the facility. This map must be to scale and include a legend and compass coordinates.

(4) A narrative description of areas that generate stormwater discharges exposed to industrial activity including descriptions for any existing or historical areas listed in subdivision 2.b.(2)(J) through (T) of this Part, and any other areas thought to generate storm water discharges exposed to industrial activity. The narrative descriptions for each identified area must include the following:

(A) Type and typical quantity of materials present in the area.

(B) Methods of storage, including presence of any secondary containment measures.

(C) Any remedial actions undertaken in the area to eliminate pollutant sources or exposure of storm water to those sources. If a corrective action plan was developed, the type of remedial action and plan date shall be referenced.

(D) Any significant release or spill history dating back a period of three (3) years from the effective date of this permit, in the identified area, for materials spilled outside of secondary containment structures and impervious surfaces in excess of their reportable quantity, including the following:

i. The date and type of material released or spilled.

ii. The estimated volume released or spilled.

iii. A description of the remedial actions undertaken, including disposal or treatment.

Depending on the adequacy or completeness of the remedial actions, the spill history shall be used to determine additional pollutant sources that may be exposed to storm water. In subsequent permit terms, the history shall date back for a period of five (5) years from the date of the permit renewal application.

(E) Where the chemicals or materials have the potential to be exposed to storm water discharges, the descriptions for each identified area must include a risk identification analysis of chemicals or materials stored or used within the area. The analysis must include the following:

i. Toxicity data of chemicals or materials used within the area, referencing appropriate material safety data sheet information locations.

ii. The frequency and typical quantity of listed chemicals or materials to be stored within the area.

iii. Potential ways in which storm water discharges may be exposed to listed chemicals and materials.

iv. The likelihood of the listed chemicals and materials to come into contact with water.

(5) A narrative description of existing and planned management practices and measures to improve the quality of storm water run-off entering a water of the state. Descriptions must be created for existing or historical areas listed in subdivision 2.b.(2)(J) through (S) and any other areas thought to generate storm water discharges exposed to industrial activity. The description must include the following:

(A) Any existing or planned structural and nonstructural

control practices and measures.

(B) Any treatment the storm water receives prior to leaving the facility property or entering a water of the state.

(C) The ultimate disposal of any solid or fluid wastes collected in structural control measures other than by discharge.

(D) Describe areas that due to topography, activities, or other factors have a high potential for significant soil erosion.

(E) Document the location of any storage piles containing salt used for deicing.

(F) Information or other documentation required under subsection (d) of this plan.

(6) The results of stormwater monitoring. The monitoring data must include completed field data sheets, chain-of-custody forms, and laboratory results. If the monitoring data are not placed into the facility's SWP3, the on-site location for storage of the information must be reference in the SWP3.

c. Non-Stormwater Discharges – You must document that you have evaluated for the presence of non-storm water discharges not authorized by an NPDES. Any non-storm water discharges have either been eliminated or incorporated into this permit. Documentation of non-storm water discharges shall include

(1) A written non-storm water assessment, including the following:

(A) A certification letter stating that storm water discharges entering a water of the state have been evaluated for the presence of illicit discharges and non-storm water contributions.

(B) Detergent or solvent-based washing of equipment or vehicles that would allow washwater additives to enter any storm water only drainage system shall not be allowed at this facility unless appropriately permitted under this NPDES permit.

(C) All interior maintenance area floor drains with the potential for maintenance fluids or other materials to enter storm water only storm sewers must be either sealed, connected to a sanitary sewer with prior authorization, or appropriately permitted under this NPDES permit. The sealing, sanitary sewer connecting, or permitting of drains under this item must be documented in the written non-storm water assessment program.

(D) The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during the test.

d. General Requirements – The SWP3 must meet the following general requirements:

(1) The plan shall be certified by a qualified professional. The term qualified professional means an individual who is trained and experienced in water treatment techniques and related fields as may be demonstrated by state registration, professional certification, or completion of course work that enable the individual to make sound, professional judgments regarding storm water control/treatment and monitoring, pollutant fate and transport, and drainage planning.

(2) The plan shall be retained at the facility and be available for review by a representative of the Commissioner upon request. IDEM may provide access to portions of your SWP3 to the public.

(3) The plan must be revised and updated as required. Revised and updated versions of the plan must be implemented on or before three hundred sixty-five (365) days from the effective date of this permit. The Commissioner may grant an extension of this time frame based on a request by the person showing reasonable cause.

(4) If the permittee has other written plans, required under applicable federal or state law, such as operation and maintenance, spill prevention control and countermeasures (SPCC), or risk contingency plans, which fulfill certain requirements of an SWP3, these plans may be referenced,

at the permittee's discretion, in the appropriate sections of the SWP3 to meet those section requirements.

(5) The permittee may combine the requirements of the SWP3 with another written plan if:

(A) The plan is retained at the facility and available for review;

(B) All the requirements of the SWP3 are contained within the plan; and

(C) A separate, labeled section is utilized in the plan for the SWP3 requirements.

L. WHOLE EFFLUENT TOXICITY LIMITATIONS

The 1977 Clean Water Act explicitly states, in Section 101(3) that it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited. In support of this policy the U.S. EPA in 1995 amended 40 CFR 136.3 (Tables IA and II) by adding testing method for measuring acute and short-term chronic toxicity of whole effluents and receiving waters. To adequately assess the character of the effluent, and the effects of the effluent on aquatic life, the permittee shall conduct Whole Effluent Toxicity Testing. Part 1 of this section describes the testing procedures, Part 2 describes the Toxicity Reduction Evaluation which is only required if the effluent demonstrated toxicity, as described in section 1.f.

1. Whole Effluent Toxicity Tests

Within 90 days of the effective date of the permit, US Steel shall initiate the series of bioassay tests described below to monitor the toxicity of the discharge from outfalls 005, 010, 030, and 034 on a monthly basis for the first three (3) months and thereafter quarterly for the duration of the NPDES permit. If toxicity is demonstrated as defined under section f. below, the permittee is required to conduct a toxicity reduction evaluation (TRE).

a. Bioassay Test Procedures and Data Analysis

(1) All test organisms, test procedures and quality assurance criteria used shall be in accordance with the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms; Fourth Edition Section 13, Cladoceran (*Ceriodaphnia dubia*) Survival and Reproduction Test Method 1002.0; and Section 11, Fathead Minnow (*Pimephales promelas*) Larval

Survival and Growth Test Method, (1000.0) EPA 821-R-02-013, October 2002, or most recent update.

(2) Any circumstances not covered by the above methods, or that required deviation from the specified methods shall first be approved by the IDEM's Environmental Toxicology and Chemistry Section.

(3) The determination of effluent toxicity shall be made in accordance with the Data Analysis general procedures for chronic toxicity endpoints as outlined in Section 9, and in Sections 11 and 13 of the respective Test Method (1000.0 and 1002.0) of Short-term Methods of Estimating the Chronic Toxicity of Effluent and Receiving Water to Freshwater Organisms (EPA-821-R-02-013), Fourth Edition, October 2002, or most recent update.

b. Types of Bioassay Tests

The permittee shall conduct 7-day Daphnid (*Ceriodaphnia dubia*) Survival and Reproduction Test and a 7-day Fathead Minnow (*Pimephales promelas*) Larval Survival and Growth Test on samples of whole effluent for Outfalls 005, 010, 030, and 034. All tests will be conducted on 24-hour composite samples of whole effluent. All test solutions shall be renewed daily. On days three and five fresh 24-hour composite samples of whole effluent collected on alternate days shall be used to renew the test solutions.

If, in any control, more than 10% of the test organisms die in 96 hours, or more than 20% of the test organisms die in 7days, that test shall be repeated. In addition, if in the *Ceriodaphnia* test control the number of newborns produced per surviving female is less than 15, or if 60% of surviving control females have less than three broods; and in the fathead minnow test if the mean dry weight of 7- day old surviving fish in the control group is less than 0.25 mg, that test shall also be repeated. Such testing will determine whether the effluent affects the survival, reproduction, and/or growth of the test organisms. Results of all tests regardless of completion must be reported to IDEM.

c. Effluent Sample Collection and Chemical Analysis

(1) Samples taken for the purposes of Whole Effluent Toxicity Testing will be taken at a point that is representative of the discharge, but prior to discharge. The maximum holding

time for whole effluent is 36 hours for a 24 hour composite sample. Bioassay tests must be started within 36 hours after termination of the 24 hour composite sample collection. Bioassay of effluent sampling may be coordinated with other permit sampling requirements as appropriate to avoid duplication.

(2) Chemical analysis must accompany each effluent sample taken for bioassay test, especially the sample taken for the repeat or confirmation test as outlined in section f.3. below. The effluent sample should be analyzed for all the parameters detailed under Part I.A. for Outfalls 005, 010, 030, and 034. The chemical analysis must comply with approved EPA test methods.

d. Testing Frequency and Duration

The chronic toxicity test specified in section b. above shall be conducted monthly for three (3) months initially and thereafter at least once every quarter for the duration of the permit. After three tests have been completed, that indicate no toxicity as defined in section f. below, the permittee may reduce the number of species tested to only include the most sensitive to the toxicity in the effluent. In the absence of toxicity with either species in the monthly testing for three (3) months in the current tests, sensitive species will be selected based on frequency and failure of whole effluent toxicity tests with one or the other species in the immediate past.

If toxicity is demonstrated as defined under section f. below, the permittee is required to conduct a toxicity reduction evaluation (TRE) as specified in Section 2.

e. Reporting

(1) Results shall be reported according to EPA 821-R-02-013, October 2002, Section 10 (Report Preparation). Two copies of the completed report for each test shall be submitted to the Compliance Evaluation Section, Office of Water Quality of the IDEM no later than sixty days after completion of the test.

(2) For quality control, the report shall include the results of appropriate standard reference toxic pollutant tests for chronic endpoints and historical reference toxic pollutant

data with mean values and appropriate ranges for the respective test species *Ceriodaphnia dubia* and *Pimephales promelas*. Biomonitoring reports must also include copies of Chain-of-Custody Records and Laboratory raw data sheets.

(3) Statistical procedures used to analyze and interpret toxicity data including critical values of significance used to evaluate each point of toxicity should be described and included as part of the biomonitoring report.

f. Demonstration of Toxicity

(1) Acute toxicity will be demonstrated if the effluent is observed to have exceeded 1.0 TU_a (acute toxic units) based on 100% effluent for the test organism in 48 and 96 hours for *Ceriodaphnia dubia* or *Pimephales promelas*, respectively.

TU_a is defined as $100/LC_{50}$.

(2) Chronic toxicity will be demonstrated if the effluent is observed to have exceeded the levels specified below for *Ceriodaphnia dubia* or *Pimephales promelas*.

Outfall	Chronic Toxicity Level	Units
005	1.0	TU_c
010	14	TU_c
030	3.1	TU_c
034	3.6	TU_c

(3) If toxicity is found in any of the tests as specified above, a confirmation toxicity test using the specified methodology and same test species shall be conducted within two weeks of the completion of the failed test to confirm results. During the sampling for any confirmation test the permittee shall also collect and preserve sufficient effluent samples for use in and Toxicity Identification Evaluation (TIE) and/or Toxicity Reduction Evaluation (TRE), if necessary. If any two (2) consecutive tests, including any and all confirmation tests, indicate the presence of toxicity, the permittee must begin the implementation of a Toxicity Reduction Evaluation (TRE) as described below. The whole effluent toxicity tests required above may be

suspended (upon approval from IDEM) while the TRE/TIE are being conducted.

g. Definitions

(1) TU_c is defined as 100/NOEC or $100/IC_{25}$, where the NOEC or IC_{25} are expressed as a percent effluent in the test medium.

(2) TU_a is defined as $100/LC_{50}$ where the LC_{50} is expressed as a percent effluent in the test medium of an acute whole effluent toxicity (WET) test that is statistically or graphically estimated to be lethal to fifty percent (50%) of the test organisms.

(3) "Inhibition concentration 25" or "IC_{25}" means the toxicant (effluent) concentration that would cause a twenty-five percent (25%) reduction in a nonquantal biological measurement for the test population. For example, the IC_{25} is the concentration of toxicant (effluent) that would cause a twenty-five percent (25%) reduction in mean young per female or in growth for the test population.

(4) "No observed effect concentration" or "NOEC" is the highest concentration of toxicant (effluent) to which organisms are exposed in a full life cycle or partial life cycle (short term) test, that causes no observable adverse effects on the test organisms, that is, the highest concentration of toxicant (effluent) in which the values for the observed responses are not statistically significantly different from the controls.

(5) "Quarterly" defined for the purposes of taking samples during a given quarter will be defined as in the months of March, June, September, and December.

2. <u>Toxicity Reduction Evaluation (TRE) Schedule of Compliance</u>

The development and implementation of a TRE (including any post-TRE biomonitoring requirements) is only required if toxicity is demonstrated as defined in section 1.f. above.

a. Development of TRE Plan

Within 90 days of determination of toxicity, the permittee shall submit plans for an effluent toxicity reduction evaluation (TRE) to the Compliance Evaluation Section, Office of Water Quality, of the IDEM. The TRE plan shall include appropriate measures to characterize the causative toxicants and the variability associated with these compounds. Guidance on conducting effluent toxicity reduction evaluations is available from EPA and from the EPA publications list below:

(1) Methods for Aquatic Toxicity Identification Evaluations:

Phase I Toxicity Characteristics Procedures, Second Edition (EPA/600/6-91/003, February 1991.

Phase II Toxicity Identification Procedures (EPA 600R2-080), September 1993.
Phase III Toxicity Confirmation Procedures (EPA 600R92-081), September 1993.

(2) Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I. EPA/600/6-91/005F, May 1992.

(3) Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs), (EPA/600/2-88/070), April 1989.

(4) Toxicity Reduction Evaluation Protocol for Municipal Wastewater Treatments Plants (EPA/833-B-99-022) August 1999.

b. Conduct the Plan

Within 30 days after the submission of the TRE plan to IDEM, the permittee must initiate an effluent TRE consistent with the TRE plan. Progress reports shall be submitted every 90 days to the Data Management and Compliance Evaluation Sections of the Office of Water Quality (OWQ) beginning 90 days after initiation of the TRE study.

c. Reporting

Within 90 days of the TRE study completion, the permittee shall submit to the Data Management and Compliance Evaluation Section of the Office of Water Quality (OWQ) the final study

results and a schedule for reducing the toxicity to acceptable levels through control of the toxicant source or treatment of whole effluent.

d. Compliance Date

The permittee shall complete items a, b, and c from Section 2 above, and reduce the toxicity to acceptable levels as soon as possible, but no later than three years after the date of determination of toxicity.

e. Post-TRE Biomonitoring Requirements (Only Required After Completion of a TRE)

After the TRE, the permittee shall conduct monthly toxicity tests with 2 or more species for a period of three months. Should three consecutive monthly tests demonstrate no toxicity, the permittee may reduce the number of species tested to only include the species demonstrated to be most sensitive to the toxicity in the effluent (see section L.1.d., for more specifics on the topic), and conduct chronic tests quarterly for the duration of the permit.

If toxicity is demonstrated, as defined in section 1.f. above, after the initial three month period, testing must revert to a TRE as in Part 2 (TRE). These tests shall be conducted in accordance with the procedures under the Whole Effluent Toxicity Testing Section above.

M. REPORTING REQUIREMENTS FOR SOLVENTS, DEGREASING AGENTS, ROLLING OILS, WATER TREATEMENT CHEMICALS AND BIOCIDES

Annually, US Steel will report as part of the fourth monthly Discharge Monitoring Report of the following year, the total quantity (lbs/yr) of each solvent, degreasing agent, water treatment chemical, rolling oil and biocide that was purchased for that year and which can be present in any outfall regulated by this permit. This reporting requirement includes all surfactants, anionic, cationic and non-ionic, which may be used in part or wholly as a constituent in these compounds.

US Steel will maintain these files for a period of ten years. Files will include the Material Safety Data Sheet, FIFRA Label for each biocide, chemical name and CAS Number for each compound used. If these compounds contain proprietary material, US Steel may maintain this information in a separate file that can be accessed by U.S. EPA or IDEM personnel with appropriate authority.

N. TOXIC ORGANIC POLLUTANT MANAGEMENT PLAN

In order to use the Certification Statement for Total Toxic Organics on Page 36 and 37 of this permit, the Permittee is required to submit a management plan for toxic organic pollutants. The Toxic Organic Pollutant Management Plan is to be submitted to the Compliance Evaluation Section of the Office of Water Quality within ninety (90) days of the effective date of this permit, and is to include a listing of toxic organic compounds used, the method of disposal, and procedure for ensuring that these compounds do not routinely spill or leak into the process wastewater, non-contact cooling water, groundwater, storm water, or other surface waters.

Upon review by IDEM of the above report the Permittee may be required to perform additional specific monitoring for toxic organics, or may be allowed to use the Certification Statement on Page 37.

O. VISIBLE OIL CORRECTIVE ACTION MONITORING PROGRAM

The permittee shall monitor the Grand Calumet River and Lake Michigan, in the vicinity of Outfalls 005, 010, 015, 018, 019, 020, 030, 033, 034, 035, and 037 in the manner, and following the procedures and protocols, as established between United States Steel and US EPA.

Frequency shall be at a rate of 5 X Weekly. All records for this program shall be maintained at the facility for inspection and review by IDEM.

P. ZEBRA AND QUAGGA MUSSEL CONTROL AND CHLORINATION

As a means of controlling both the Zebra and Quagga Mussel colonization at the US Steel Gary Works Facility, the permittee can chlorinate the intake water on a continuous basis year round. Wastewater will be de-chlorinated prior to discharge from an external Outfall. Currently, the affected outfalls are the following: 005, 010, 015, 018, 019, 020, 021, 028, 030, 032, 033, 034, 035, 037, 039, 041A, and 041B.

In addition to the numeric effluent limitations specified at each individual outfall the following requirements shall apply:

The monthly average water quality based effluent limit (WQBEL) for Total Residual Chlorine is less than the limit of quantitation (LOQ) as defined below. Compliance with the monthly average limit will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. Daily effluent values that are less than the LOQ, used to determine the monthly average effluent levels less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the

limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

The daily maximum WQBEL for Total Residual Chlorine is less than the LOD as specified below. Compliance with the daily maximum limit will be demonstrated if the observed effluent concentrations are less than the LOD. Effluent levels greater than or equal to the LOD but less than the LOQ are in compliance with the daily maximum WQBEL, except when confirmed by a sufficient number of analyses of multiple samples and use of appropriate statistical techniques.

For calculating the monthly average mass values, See Part III.E. of this permit.

At present, two methods are considered to be acceptable to IDEM, amperometric and DPD colorimetric methods, for chlorine concentrations at the level of 0.06 mg/l.

Parameter	Test Method	LOD	LOQ
Chlorine	4500-Cl-D,E	0.02 mg/l	0.06 mg/l
Chlorine	4500-Cl-G	0.02 mg/l	0.06 mg/l

Case-Specific LOD/LOQ

The permittee may determine a case-specific LOD or LOQ using the analytical method specified above, or any other test method which is approved by the Commissioner prior to use. The LOD shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the LOQ shall be set equal to 3.18 times the LOD. Other methods may be used if first approved by the Commissioner.

Q. CYANIDE REQUIREMENTS

Sample preservation procedures and maximum allowable holding times for total cyanide, or available (free) are prescribed in Table II of 40 CFR Part 136. Note the footnotes specific to cyanide. Preservation and holding time information in Table II takes precedence over information in specific methods or elsewhere. Therefore, cyanide is to be monitored by collecting a representative grab sample and analyzing it within 24 hours. "Representative Grab Sample" is defined as a sample type of three grab samples within 24 hours.

Upon demonstration to IDEM that "no Sulfides" are present at the effected internal and/or final outfalls and IDEM has reviewed and approved the demonstration, the permittee may collect samples by 24-Hr. Composite.

R. MERCURY MONITORING REQUIREMENTS

Mercury monitoring shall be conducted Bi-monthly. (i.e. every other month) for the term of the permit. Bi-monthly monitoring shall be conducted in the months of February, April, June, August, October, and December of each year. Beginning from the effective date of the permit, the permittee shall begin using EPA Test Method 1631, "the most current version". If EPA Test Method 1631, Revision E, is further revised during the term of the permit, the permittee and/or its contract laboratory are required to utilize the most current version of the method as soon as possible after approval by EPA but no later than the second monitoring event after the revision.

Parameter	Test Method	LOD	LOQ
Mercury	1631, Revision E	0.2 ng/l	0.5 ng/l

PART II

STANDARD CONDITIONS FOR NPDES PERMITS

A. GENERAL CONDITIONS

1. Duty to Comply

The permittee shall comply with all terms and conditions of this permit in accordance with 327 IAC 5-2-8(1) and all other requirements of 327 IAC 5-2-8. Any permit noncompliance constitutes a violation of the Clean Water Act and IC 13 and is grounds for enforcement action or permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

2. Duty to Mitigate

In accordance with 327 IAC 5-2-8(3), the permittee shall take all reasonable steps to minimize or correct any adverse impact to the environment resulting from noncompliance with this permit. During periods of noncompliance, the permittee shall conduct such accelerated or additional monitoring for the affected parameters, as appropriate or as requested by IDEM, to determine the nature and impact of the noncompliance.

3. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must obtain and submit an application for renewal of this permit in accordance with 327 IAC 5-2-8(2). It is the permittee's responsibility to obtain and submit the application. In accordance with 327 IAC 5-2-3(c), the owner of the facility or operation from which a discharge of pollutants occurs is responsible for applying for and obtaining the NPDES permit, except where the facility or operation is operated by a person other than an employee of the owner in which case it is the operator's responsibility to apply for and obtain the permit. Pursuant to 327 IAC 5-3-2(a)(2), the application must be submitted at least 180 days before the expiration date of this permit. This deadline may be extended if:

a. permission is requested in writing before such deadline;

b. IDEM grants permission to submit the application after the deadline; and

c. the application is received no later than the permit expiration date.

4. Permit Transfers

In accordance with 327 IAC 5-2-8(4)(D), this permit is nontransferable to any person except in accordance with 327 IAC 5-2-6(c). This permit may be transferred to another person by the permittee, without modification or revocation and reissuance being required under 327 IAC 5-2-16(c)(1) or 16(e)(4), if the following occurs:

a. the current permittee notified the Commissioner at least thirty (30) days in advance of the proposed transfer date.

b. a written agreement containing a specific date of transfer of permit responsibility and coverage between the current permittee and the transferee (including acknowledgment that the existing permittee is liable for violations up to that date, and the transferee is liable for violations from that date on) is submitted to the Commissioner.

c. the transferee certifies in writing to the Commissioner their intent to operate the facility without making such material and substantial alterations or additions to the facility as would significantly change the nature or quantities of pollutants discharged and thus constitute cause for permit modification under 327 IAC 5-2-16(d). However, the Commissioner may allow a temporary transfer of the permit without permit modification for good cause, e.g., to enable the transferee to purge and empty the facility's treatment

system prior to making alterations, despite the transferee's intent to make such material and substantial alterations or additions to the facility.

d. the Commissioner, within thirty (30) days, does not notify the current permittee and the transferee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

The Commissioner may require modification or revocation and reissuance of the permit to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act or state law.

5. Permit Actions

In accordance with 327 IAC 5-2-16(b) and 327 IAC 5-2-8(4), this permit may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Failure of the permittee to disclose fully all relevant facts or misrepresentation of any relevant facts in the application, or during the permit issuance process; or

c. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit, e.g., plant closure, termination of discharge by connection to a POTW, a change in state law that requires the reduction or elimination of the discharge, or information indicating that the permitted discharge poses a substantial threat to human health or welfare.

Filing of either of the following items does not stay or suspend any permit condition: (1) a request by the permittee for a permit modification, revocation and reissuance, or termination, or (2) submittal of information specified in Part II.A.3 of the permit including planned changes or anticipated noncompliance.

The permittee shall submit any information that the permittee knows or has reason to believe would constitute cause for modification or revocation and reissuance of the permit at the earliest time such information becomes available, such as plans for physical alterations or additions to the permitted facility that:

1. could significantly change the nature of, or increase the quantity of pollutants discharged; or

2. the commissioner may request to evaluate whether such cause exists.

In accordance with 327 IAC 5-1-3(a)(5), the permittee must also provide any information reasonably requested by the Commissioner.

6. Property Rights

Pursuant to 327 IAC 5-2-8(6) and 327 IAC 5-2-5(b), the issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to persons or private property or invasion of other private rights, any infringement of federal, state, or local laws or regulations. The issuance of the permit also does not preempt any duty to obtain any other state, or local assent required by law for the discharge or for the construction or operation of the facility from which a discharge is made.

7. Severability

In accordance with 327 IAC 1-1-3, the provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any person or circumstance is held invalid, the invalidity shall not affect any other provisions or applications of the permit which can be given effect without the invalid provision or application.

8. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

9. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act or state law.

10. Penalties for Violation of Permit Conditions

Pursuant to IC 13-30-4, a person who violates any provision of this permit, the water pollution control laws; environmental management laws; or a rule or standard adopted by the Water Pollution Control Board is liable for a civil penalty not to exceed twenty-five thousand dollars ($25,000) per day of any violation.

Pursuant to IC 13-30-5, a person who obstructs, delays, resists, prevents, or interferes with (1) the department; or (2) the department's personnel or designated

agent in the performance of an inspection or investigation performed under IC 13-14-2-2 commits a class C infraction.

Pursuant to IC 13-30-10-1.5(k), a person who willfully or recklessly violates any NPDES permit condition or filing requirement, any applicable standards or limitations of IC 13-18-3-2.4, IC 13-18-4-5, IC 13-18-8, IC 13-18-9, IC 13-18-10, IC 13-18-12, IC 13-18-14, IC 13-18-15, or IC 13-18-16, or who knowingly makes any false material statement, representation, or certification in any NPDES form, notice, or report commits a Class C misdemeanor.

An offense under IC 13-30-10-1.5(k) is a Class D felony if the offense results in damage to the environment that renders the environment unfit for human or vertebrate animal life. An offense under IC 13-30-10-1.5(k) is a Class C felony if the offense results in the death of another person.

11. Penalties for Tampering or Falsification

In accordance with 327 IAC 5-2-8(9), the permittee shall comply with monitoring, recording, and reporting requirements of this permit. The Clean Water Act, as well as IC 13-30-10, provides that any person who knowingly or intentionally (a) destroys, alters, conceals, or falsely certifies a record that is required to be maintained under the terms of a permit issued by the department; and may be used to determine the status of compliance, (b) renders inaccurate or inoperative a recording device or a monitoring device required to be maintained by a permit issued by the department, or (c) falsifies testing or monitoring data required by a permit issued by the department commits a Class B misdemeanor.

12. Toxic Pollutants

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant injurious to human health, and that standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition in accordance with 327 IAC 5-2-8(5). Effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants injurious to human health are effective and must be complied with, if applicable to the permittee, within the time provided in the implementing regulations, even absent permit modification.

13. Wastewater treatment plant and certified operators

The permittee shall have the wastewater treatment facilities under the responsible charge of an operator certified by the Commissioner in a classification corresponding to the classification of the wastewater treatment plant as required

by IC 13-18-11-11 and 327 IAC 5-22. In order to operate a wastewater treatment plant the operator shall have qualifications as established in 327 IAC 5-22-7.

327 IAC 5-22-10(b) provides that a certified operator may be designated as being in responsible charge of more than one (1) wastewater treatment plant, if it can be shown that he will give adequate supervision to all units involved. Adequate supervision means that sufficient time is spent at the plant on a regular basis to assure that the certified operator is knowledgeable of the actual operations and that test reports and results are representative of the actual operations conditions. In accordance with 327 IAC 5-22-3(10), "responsible charge" means the person responsible for the overall daily operation, supervision, or management of a wastewater facility.

Pursuant to 327 IAC 5-22-10(a), the permittee shall notify IDEM when there is a change of the person serving as the certified operator in responsible charge of the wastewater treatment facility. The notification shall be made no later than thirty (30) days after a change in the operator.

14. Construction Permit

In accordance with IC 13-14-8-11.6, a discharger is not required to obtain a state permit for the modification or construction of a water pollution treatment or control facility if the discharger has an effective NPDES permit.

If the discharger modifies their existing water pollution treatment or control facility or constructs a new water pollution treatment or control facility for the treatment or control of any new influent pollutant or increased levels of any existing pollutant, then, within thirty (30) days after commencement of operation, the discharger shall file with the Department of Environment Management a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

> The notice and design summary shall be sent to the Office of Water Quality - Mail Code 65-42, Industrial NPDES Permits Section, 100 North Senate Avenue, Indianapolis, IN 46204-2251.

15. Inspection and Entry

In accordance with 327 IAC 5-2-8(7), the permittee shall allow the Commissioner, or an authorized representative, (including an authorized contractor acting as a representative of the Commissioner) upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a point source, regulated facility, or activity is located or conducted, or where records must be kept pursuant to the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit;

c. Inspect at reasonable times any facilities, equipment or methods (including monitoring and control equipment), practices, or operations regulated or required pursuant to this permit; and

d. Sample or monitor at reasonable times, any discharge of pollutants or internal wastestreams for the purposes of evaluating compliance with the permit or as otherwise authorized.

16. New or Increased Discharge of Pollutants

This permit prohibits the permittee from undertaking any action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a pollutant parameter that is not a BCC unless one of the following is completed prior to the commencement of the action:

a. Information is submitted to the Commissioner demonstrating that the proposed new or increased discharges will not cause a significant lowering of water quality as defined under 327 IAC 5-2-11.3(b)(1). Upon review of this information, the Commissioner may request additional information or may determine that the proposed increase is a significant lowering of water quality and require the submittal of an antidegradation demonstration.

b. An antidegradation demonstration is submitted to and approved by the Commissioner in accordance with 327 IAC 5-2-11.3(b)(3) through (6).

B. MANAGEMENT REQUIREMENTS

1. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and efficiently operate all facilities and systems (and related appurtenances) for the collection and treatment which are installed or used by the permittee and which are necessary for achieving compliance with the terms and conditions of this permit in accordance with 327 IAC 5-2-8(8).

Neither 327 IAC 5-2-8(8), nor this provision, shall be construed to required the operation of installed treatment facilities that are unnecessary for achieving compliance with the terms and conditions of the permit.

2. Bypass of Treatment Facilities

Pursuant to 327 IAC 5-2-8(11):

a. Terms as defined in 327 IAC 5-2-8(11)(A):

(1) "Bypass" means the intentional diversion of a waste stream from any portion of a treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. The permittee may allow a bypass to occur that does not cause a violation of the effluent limitations in the permit, but only if it is also for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Part II.B.2.c., e, and f of this permit.

c. Bypasses, as defined in (a) above, are prohibited, and the Commissioner may take enforcement action against a permittee for bypass, unless the following occur:

(1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, as defined above;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submitted notices as required under Part II.B.2.e; or

(4) The condition under Part II.B.2.b above is met.

d. Bypasses that result in death or acute injury or illness to animals or humans must be reported in accordance with the "Spill Response and Reporting Requirements" in 327 IAC 2-6.1, including calling 888/233-7745 as soon as possible, but within two (2) hours of discovery.

e. The permittee must provide the Commissioner with the following notice:

(1) If the permittee knows or should have known in advance of the need for a bypass (anticipated bypass), it shall submit prior written notice. If possible, such notice shall be provided at least ten (10) days before the date of the bypass for approval by the Commissioner.

(2) The permittee shall orally report an unanticipated bypass that exceeds any effluent limitations in the permit within 24 hours of becoming aware of the bypass noncompliance. The permittee must also provide a written report within five (5) days of the time the permittee becomes aware of the bypass event. The written report must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; if the cause of noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the bypass event.

f. The Commissioner may approve an anticipated bypass, after considering its adverse effects, if the Commissioner determines that it will meet the conditions listed above in Part II.B.2.c. The Commissioner may impose any conditions determined to be necessary to minimize any adverse effects.

3. Upset Conditions

Pursuant to 327 IAC 5-2-8(12):

a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include

noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Paragraph c of this section, are met.

c. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:

(1) An upset occurred and the permittee has identified the specific cause(s) of the upset, if possible;

(2) The permitted facility was at the time being operated in compliance with proper operation and maintenance procedures;

(3) The permittee complied with any remedial measures required under Part II.A.2; and

(4) The permittee submitted notice of the upset as required in the "Twenty-Four Hour Reporting Requirements," Part II.C.3, or 327 IAC 2-6.1, whichever is applicable.

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State and to be in compliance with all Indiana statutes and regulations relative to liquid and/or solid waste disposal. The discharge of pollutants in treated wastewater is allowed in compliance with the applicable effluent limitations in Part I of this permit.

C. REPORTING REQUIREMENTS

1. Planned Changes in Facility or Discharge

Pursuant to 327 IAC 5-2-8(10)(F), the permittee shall give notice to the Commissioner as soon as possible of any planned physical alterations or additions to the permitted facility. In this context, permitted facility refers

to a point source discharge, not a wastewater treatment facility. Notice is required only when either of the following applies:

a. The alteration or addition may meet one of the criteria for determining whether the facility is a new source as defined in 327 IAC 5-1.5.

b. The alteration or addition could significantly change the nature of, or increase the quantity of, pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in Part I.A. nor to notification requirements in Part II.C.9. of this permit.

Following such notice, the permit may be modified to revise existing pollutant limitations and/or to specify and limit any pollutants not previously limited.

2. Monitoring Reports

Pursuant to 327 IAC 5-2-8(9) and 327 IAC 5-2-13 through 15, monitoring results shall be reported at the intervals and in the form specified in "Monitoring Reports", Part I.C.2.

3. Twenty-Four Hour Reporting Requirements

Pursuant to 327 IAC 5-2-8(10)(C), the permittee shall orally report to the Commissioner information on the following types of noncompliance within 24 hours from the time permittee becomes aware of such noncompliance. If the noncompliance meets the requirements of item b (Part II.C.3.b) or 327 IAC 2-6.1, then the report shall be made within those prescribed time frames.

a. Any unanticipated bypass which exceeds any effluent limitation in the permit;

b. Any noncompliance which may pose a significant danger to human health or the environment. Reports under this item shall be made as soon as the permittee becomes aware of the noncomplying circumstances;

c. Any upset (as defined in Part II.B.3 above) that causes an exceedance of any effluent limitation in the permit;

d. Violation of a maximum daily discharge limitation for any of the following toxic pollutants:

The permittee can make the oral reports by calling (317)232-8670 during regular business hours or by calling (317) 233-7745 ((888)233-7745 toll free in Indiana) during non-business hours. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce and eliminate the noncompliance and prevent its recurrence. The Commissioner may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. Alternatively the permittee may submit a "Bypass Fax Report" or a "Noncompliance Notification Report", whichever is appropriate, to IDEM at (317) 232-8637. If a complete fax submittal is sent within 24 hours of the time that the permittee became aware of the occurrence, then the fax report will satisfy both the oral and written reporting requirements.

4. Other Noncompliance

Pursuant to 327 IAC 5-2-8(10)(D), the permittee shall report any instance of noncompliance not reported under the "Twenty-Four Hour Reporting Requirements" in Part II.C.3, or any compliance schedules at the time the pertinent Discharge Monitoring Report is submitted. The report shall contain the information specified in Part II.C.3.

5. Other Information

Pursuant to 327 IAC 5-2-8(10)(E), where the permittee becomes aware of a failure to submit any relevant facts or submitted incorrect information in a permit application or in any report, the permittee shall promptly submit such facts or corrected information to the Commissioner.

6. Signatory Requirements

Pursuant to 327 IAC 5-2-22 and 327 IAC 5-2-8(14):

a. All reports required by the permit and other information requested by the Commissioner shall be signed and certified by a person described below or by a duly authorized representative of that person:

(1) For a corporation: by a responsible corporate officer defined as a president, secretary, treasurer, any vice-president of the corporation in charge of a principal

business function, or any other person who performs similar policymaking or decision making functions for the corporation or the manager of one or more manufacturing, production or operating facilities employing more than two hundred fifty (250) persons or having the gross annual sales or expenditures exceeding twenty-five million dollars ($25,000,000) (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a Federal, State, or local government body or any agency or political subdivision thereof: by either a principal executive officer or ranking elected official.

b. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above.

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or a position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The authorization is submitted to the Commissioner.

c. Certification. Any person signing a document identified under Part II.C.6. shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information,

including the possibility of fine and imprisonment for knowing violations."

7. Availability of Reports

Except for data determined to be confidential under 327 IAC 12.1, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Indiana Department of Environmental Management and the Regional Administrator. As required by the Clean Water Act, permit applications, permits, and effluent data shall not be considered confidential.

8. Penalties for Falsification of Reports

IC 13-30 and 327 IAC 5-2-8(14) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance, shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 180 days per violation, or by both.

9. Changes in Discharge of Toxic Substances

Pursuant to 327 IAC 5-2-9, the permittee shall notify the Commissioner as soon as it knows or has reason to believe:

a. That any activity has occurred or will occur which would result in the discharge of any pollutant identified as toxic, pursuant to Section 307(a) of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels."

(1) One hundred micrograms per liter (100µg/l);

(2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500µg/l) for 2,4-dinitrophenol and 2-methyl-4,6-dinitophenol; and one milligram per liter (1mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

(4) A notification level established by the Commissioner on a case-by-case basis, either at his own initiative or upon a petition by the permittee. This notification level may exceed the level specified in subdivisions (1), (2), or (3) but may not exceed the level which can be achieved by the technology-based treatment requirements applicable to the permittee under the CWA (see 327 IAC 5-5-2).

b. That it has begun or expects to begin to use or manufacture, as an intermediate or final product or byproduct, any toxic pollutant which was not reported in the permit application under 40 CFR 122.21(g)(9).

PART III
OTHER REQUIREMENTS

A. Temperature Requirements

1. The following temperature effluent limitations and requirements shall apply to discharges to the Grand Calumet River, subject to the schedule of compliance in Part III.A.3. of this permit:

a. The monitoring of the Temperature is to occur on a continuous basis at the following locations in the Grand Calumet River:

Approximately 100 feet downstream of the US Steel Outfall 005, which shall be designated as monitoring point 205; and

Approximately 100 feet downstream of the US Steel Outfall 020, which shall be designated as monitoring point 220; and

Approximately 100 feet downstream of the US Steel Outfall 030, which shall be designated as monitoring point 230.

Temperature measurements taken in the Grand Calumet River at the above locations shall be taken at mid-stream and at a depth of approximately one meter below the water's surface.

b. Temperature measurements at the above stated locations shall be recorded in one hour intervals. The highest single recorded measurement for each day shall be reported on the state monthly monitoring report for each day. The highest single recorded daily

measurement shall be reported on the federal discharge monitoring report as the maximum daily temperature of that month.

The permittee shall submit an annual summary of the individual data points for the instream temperature at the measuring points for Outfall 205, 220 and 230. The annual summary shall be sent no later than January 31st of the succeeding year to the Industrial NPDES Permits Section of the Office of Water Quality, MC 65-42, 100 North Senate Avenue, Indianapolis, Indiana 46204-2251. The annual summary shall be in a database using Microsoft Excel software copied to a compact disk.

c. The temperature measured at monitoring points 205, 220 and 230 shall not exceed the maximum limits in Temperature Table 1 below during more than one percent (1%) of the hours in the twelve (12) month period ending with any month; at no time shall the temperature at monitoring points 205, 220, and 230 exceed the maximum limits in Temperature Table 1 by more than three degrees Fahrenheit (3° F).

TEMPERATURE TABLE 1
Maximum Instream Water Temperatures (° F)

January	February	March	April	May	June
50	50	60	70	80	90

July	August	September	October	November	December
90	90	90	78	70	57

d. The number of hours where the measured temperature at the locations listed in Part III.A.1.a. above exceed the limits in Table 1 and the number of days where the measured temperature exceeds the limits in Table 1 by more than 3° F shall be reported on the state monthly monitoring report and the federal discharge monitoring report.

e. The cumulative number of hours where the temperature measurements at 205, 220, or 230 exceed the limits in Table 1 during the most recent twelve (12) month period shall be reported on the state monthly monitoring report and the federal discharge monitoring report every month. The most recent twelve (12) months shall include the current month and the previous eleven (11) months.

f. Monitoring at the following individual outfalls [005, 010, 015, 018, 019, 020, 028, 030, and 034] shall be taken on the same day of the week. Where temperature is sampled at 6 grabs/day, the samples shall be equally spaced throughout the day. The highest temperature value measured shall be the value reported for that day.

g. There shall be no abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions.

h. The normal daily and seasonal temperature fluctuations that existed before the addition of heat due to other than natural causes shall be maintained.

2. DISCHARGES TO LAKE MICHIGAN

The following temperature effluent limitations and requirements shall apply to discharges from Outfalls 035, 037, and 039 to Lake Michigan.

a. There shall be no abnormal temperature changes so as to be injurious to fish, wildlife, or other aquatic life, or the growth or propagation thereof. In addition, plume interaction with the bottom shall be minimized and shall not injuriously affect fish, shellfish, and wildlife spawning or nursery areas.

b. The normal daily and seasonal temperature fluctuations that existed before the addition of heat shall be maintained.

c. Discharge flow, discharge temperature, and intake temperature shall be continuously monitored at intake structures No. 1, No. 2 and the Lakeside Pump Stations, and at Outfalls 035, 037, and 039 discharges.

d. The facilities described as follows that discharge into the open waters of Lake Michigan shall be limited to the amount essential for blowdown in the operation of a closed cycle cooling facility:

(i) All facilities that have new waste heat discharges exceeding a daily average of five-tenths (0.5) billion British thermal units per hour. As used in this item, "new waste heat discharge" means a discharge that had not begun operations as of February 11, 1972.

(ii) All facilities with existing waste heat discharges that increase the quantity of waste heat discharged by more than a daily average of five-tenths (0.5) billion British thermal units per hour.

e. Thermal plumes shall not overlap or intersect except for discharges in existence as of the date that 327 IAC 2-2.5-8(c)(4)(D)(vii) became effective.

f. Facilities discharging more than a daily average of five-tenths (0.5) billion British thermal units of waste heat shall continuously record intake and discharge temperature and discharge flow and make those records available to the public or regulatory agencies upon request.

The thermal discharge shall be computed as follows:

Thermal Discharge (E*6 Btu./Hr.) = $Q \times (T_o - T_i) \times 0.3477$

where,

E*6, converts to million Btu/Hr.
Q = 24 hour discharge flow, MGD.
T_o = 24 hour average effluent temperature, °F
T_i = 24 hour average intake temperature, °F
0.3477, conversion factor

g. At any time and at a maximum distance of a one thousand (1,000) foot arc inscribed from a fixed point adjacent to the discharge:

(i) The receiving water temperature shall not be more than three degrees Fahrenheit (3° F) above the existing natural water temperature; and

(ii) Thermal discharges to Lake Michigan shall comply with the following maximum temperature requirements:

(1) The thermal discharge to Lake Michigan shall not raise the maximum temperature in the receiving water above those listed in the following table, except to the extent the permittee adequately demonstrates that the exceedance is caused by the water temperature of the intake water in accordance with Part III.A.2.g.(ii)(2):

Temperature Table 2
Maximum Water Temperature °F

January	45	July	80
February	45	August	80
March	45	September	80
April	55	October	65
May	60	November	60
June	70	December	50

(2) If the permittee demonstrates that the intake water temperature is within three (3) degrees Fahrenheit below an applicable maximum temperature in Temperature Table (2) above, then no more than a three (3) degree Fahrenheit exceedance of the maximum water temperature shall be permitted.

h. The permittee shall submit an annual summary of the individual data points for the effluent temperature at Outfalls 035, 037, and 039 discharges. The annual summary shall be sent no later than January 31st of the succeeding year to the Industrial NPDES Permits Section of the Office of Water Quality, MC 65-42, 100 North Senate Avenue, Indianapolis, Indiana 46204-2251. The annual summary shall be in a database using Microsoft Excel software copied to a compact disk.

3. SCHEDULE OF COMPLIANCE FOR FINAL TEMPERATURE LIMITATIONS, CONTINUOUS TEMPERATURE AND CONTINUOUS FLOW MONITORING REQUIREMENTS.

a. The permittee shall achieve compliance with the continuous monitoring and reporting requirements specified for temperature at Outfall(s) 037, and 039, and for continuous monitoring in the Grand Calumet River at points 205, 220 and 230, as specified in Part III.A.1., and for intake temperature and discharge flow for Outfalls 037 and 039 within twelve (12) months from the effective date of this permit.

b. The permittee shall achieve compliance with the final temperature limits at Outfalls 205, 220 and 230 on the Grand Calumet River as soon as possible but no later than thirty-six (36) months from the effective date of this permit in accordance with the following schedule:

(i) The permittee shall submit a written Plan on the ability to achieve compliance with the new final temperature limits to the Compliance Evaluation Section of the Office of Water Quality (OWQ) nine (9) months from the effective date of this permit. The Plan shall include a description of the method(s) selected for meeting the newly imposed limitation for temperature, in addition to any other relevant information. The Plan shall also include a specific time line specifying when each of the steps will be taken. The new limits for temperature at 205, 220, and 230 are deferred for the term of this compliance schedule, unless the new limits for temperature can be met at an earlier date. The permittee shall notify the Compliance Evaluation Section of OWQ as soon as data for 12 months indicates that the newly imposed limits for temperature can be met.

Upon receipt of such notification by OWQ, the final limits for temperature will become effective, but no later than thirty-six (36) months from the effective date of this permit. Monitoring and reporting of the instream temperature at monitoring points 205, 220, and 230 is required during the interim period and is detailed in Part III.A.4. below.

(ii) The permittee shall submit a progress report to the Compliance Evaluation Section of OWQ no later than eighteen (18) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve compliance with the final limitations for temperature and whether the permittee is meeting the time line set out in the initial Plan.

(iii) The permittee shall submit a subsequent progress report to the Compliance Evaluation Section of OWQ no later than twenty-seven (27) months from the effective date of this permit. This report shall include detailed information on the steps the permittee has taken to achieve compliance with the final limitations and whether the permittee is meeting the time line set out in the initial Plan.

(iv) Within thirty (30) days of completion of construction, the permittee shall file with the Industrial NPDES Permits Section of OWQ a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

(v) The permittee shall comply with the final limitations for temperature no later than thirty-six (36) months from the effective date of this permit.

c. If the permittee fails to comply with any deadline contained in the foregoing schedule, the permittee shall, within fourteen (14) days following the missed deadline, submit a written notice of noncompliance to the Compliance Evaluation Section of the OWQ stating the cause of noncompliance, any remedial action taken or planned, and the probability of meeting the date fixed for compliance with final temperature limitations.

4. INTERIM TEMPERATURE REQUIREMENTS

a. During the compliance schedule period, US Steel shall comply with the following interim temperature requirements:

(i) USS shall start monitoring temperature of the Grand Calumet River on a continuous basis at monitoring locations 205, 220, and 230 within the twelve month schedule of compliance allowed under Part III.A.3.a of the permit.

(ii) The permittee shall monitor and report the temperature of the Grand Calumet River at Broadway Street on a continuous basis during the compliance schedule set up for monitoring locations 205, 220 and 230 provided in Part III.A.3.b. Monitoring at Broadway is only required until US Steel can demonstrate compliance at 205, 220, 230 or until the end of the three year schedule of compliance whichever is sooner.

Temperature measurements at Broadway Street shall be recorded in one hour intervals. The highest single recorded measurement for each day shall be reported on the state monthly monitoring report for each day. The highest single recorded daily measurement shall be reported on the federal discharge monitoring report as the maximum daily temperature of that month.

The permittee shall monitor and report the temperature downstream of Outfall 034 at the Clark Street Bridge 1 X weekly during the months of December, January, and February, and 2 X Monthly during the other months of the

year until the maximum three year compliance schedule provided in Part III.3. has been completed. The measurements shall be taken at three equally spaced intervals across the width of the river at Clark Street. The measurements shall be taken between the hours of 12:01 and 6:00 p.m.

(iii) Thermal content of the US Steel discharges shall not raise the instream temperature at the Broadway Street Bridge above the maximum Indiana Water Quality Standards temperatures in Table 3 below except as stated in (iv) and (v) below:

Temperature Table 3
Maximum Instream Temperatures (°F)

January	February	March	April	May	June
50	50	60	70	80	90

July	August	September	October	November	December
90	90	90	78	70	57

(iv) The water temperature shall not exceed the maximum limits in the table above during more than one percent (1%) of the hours in the twelve (12) month period ending with any month.

(v) At no time shall the water temperature at such locations exceed the maximum limits in (iii) above by more than three degrees Fahrenheit (3° F). This limitation also applies at the Clark Street Bridge.

B. BIOCIDES

The permittee must receive written permission from the Indiana Department of Environmental Management to use any biocide or molluscicide other than those which have been previously submitted and received written approval at the time the permit became effective.

C. COOLING WATER INTAKE STRUCTURES

1. BEST TECHNOLOGY AVAILABLE (BTA) EVALUATION

Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326) requires that facilities minimize adverse environmental impact resulting from the operation

of cooling water intake structures (CWIS) by using the "best technology available" (BTA). The only applicable federal regulation for implementing Section 316(b) at the Gary Works Facility is 40 C.F.R. §125.90(b). This regulation requires that the BTA be determined using Best Professional Judgment (BPJ). The cooling water intake structures operated by the US Steel Corporation at the Gary Works Facility have been evaluated under BPJ and utilizing all available information to reach the following BTA determination. A discussion of the BPJ evaluation and a summary of the documentation submitted by US Steel can be found in the Fact Sheet.

At this time IDEM has determined that the existing cooling water intake structures represent best technology available to minimize adverse environmental impact in accordance with Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326). This determination will be reassessed at the next permit reissuance to ensure that the CWISs continue to meet the requirements of Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326).

USS shall at all times properly operate and maintain the cooling water intake structure and associated equipment to minimize adverse environmental impact, consistent with the operational and maintenance practices taken into account in the BTA determination.

As a condition of this BTA determination, the facility must ensure that the through screen velocity for each intake does not exceed 0.5ft/s through either design or operational measures.

2. MONITORING REQUIREMENTS

The purpose of the monitoring studies shall be to further characterize the nature and extent of the environmental impacts from the CWISs in a scientifically valid manner. Impingement and entrainment have been determined to be appropriate measures for determining that adverse environmental impacts have been minimized.

a. Entrainment

(i) For as long as this permit is effective, U. S. Steel will conduct scientifically valid entrainment studies at the Lakeside and #2 Pump Stations. Sampling periods for the studies shall be determined after taking into consideration the expected spawning period for the species of interest. Sampling techniques will be appropriate for the water body and ensure that sufficient data are developed to allow for a scientifically valid estimate of potential entrainment

impacts. Appropriate quality assurance/quality control procedures will be utilized.

(ii) Within one year of the effective date of the permit, U. S. Steel will submit to IDEM a specific, detailed proposal for how it intends to conduct the entrainment studies consistent with Paragraph a.(i) during the second and third year of the permit term at the Lakeside and #2 Pump Stations. The proposal should be provided to IDEM at least 90 (ninety) days prior to the start of the proposed studies.

(iii) Until this permit is no longer effective, U. S. Steel will submit to IDEM similar proposals for how it intends to conduct entrainment studies consistent with Paragraph a.(i) for each subsequent two year period (i.e., during the fourth and fifth year that this permit is in effect; during the sixth and seventh years that this permit is in effect; etc.), that takes into account any information developed during the prior years' studies. These proposals shall be submitted to IDEM at least 90 (ninety) days prior to the start of the proposed studies.

(iv) U. S. Steel will conduct the entrainment studies consistent with Paragraph a.(i). The studies should be performed consistent with the proposals submitted in accordance with Paragraphs a.(ii) and a.(iii), any revisions to those proposals resulting from comments provided by IDEM or EPA, and any additional revisions that are warranted to ensure that the studies will be consistent with Paragraph a.(i).

(v) Results of each study will be submitted as soon after the completion of each study as possible but no later than one year after completion of each study.

b. Impingement

(i) U. S. Steel must confirm on a quarterly (seasonal) basis that the through screen intake velocity's at each Cooling Water Intake Structure (CWIS) does not exceed the 0.5 ft/s.

(ii) For as long as this permit is effective, U. S. Steel will conduct scientifically valid impingement studies at the Lakeside, #1 Pump Station and #2 Pump Station. Sampling periods for the studies shall be determined after taking into consideration the availability of the species of interest to be impinged. Sampling techniques will be appropriate for the water body and ensure that sufficient data are developed to allow for a scientifically valid estimate of potential impingement impacts. Appropriate quality assurance/quality control procedures will be utilized.

(iii) Within one year of the effective date of the permit, U. S. Steel will submit to IDEM a specific, detailed proposal for how it intends to conduct the impingement studies consistent with Paragraph b.(ii) above during the second and third year of the permit term at the Lakeside, #1 Pump Station and #2 Pump Station. The proposal should be provided to IDEM at least 90 (ninety) days prior to the start of the proposed studies.

(iv) Until this permit is no longer effective, U. S. Steel will submit to IDEM a similar proposal for how its intends to conduct the impingement studies consistent with Paragraph b.(ii) for each subsequent two year period (i.e., during the fourth and fifth year that this permit is in effect; during the sixth and seventh years that this permit is in effect; etc.), that takes into account any information developed during the prior years' studies. These proposals shall be submitted to IDEM, at least 90 (ninety) days prior to the start of the proposed studies.

(v) U. S. Steel will conduct the impingement studies consistent with Paragraph b.(ii). The studies should be performed consistent with the proposals submitted in accordance with Paragraphs b.(iii) and b.(iv), any revisions to those proposals resulting from comments provided by IDEM or EPA, and any additional revisions that are warranted to ensure that the studies will be consistent with Paragraph b.(ii).

(vi) Results of each study will be submitted as soon after the completion of each study as possible but no later than one year after completion of each study.

3. FISH RETURN EVALUATION

Fish Returns shall be evaluated for all intakes to determine if they minimize fish mortality. US Steel shall submit to IDEM an evaluation of options (such as keeping the backwash water on after the screens stop to ensure fish return) to minimize fish mortality within one year of the effective date of the permit. This evaluation should include time frames to implement these measures. US Steel will implement any options that IDEM identifies as BTA after the information is available.

4. CHANGES DURING TERM OF PERMIT

US Steel shall provide advance notice to IDEM of any proposed changes to the CWISs or proposed changes to operations at the facility that affect the information taken into account in the current BTA evaluation.

D. INTAKE SCREEN WASH

The discharge of Intake Screen Backwash shall meet the Narrative Water Quality Standards contained in Part I.B. of the permit.

E. SPECIAL REPORTING REQUIREMENTS

1. NPDES effluent data are to be reported on the monthly DMRs as follows:

a. Daily Values

(i) Effluent concentrations less than the limit of detection (LOD) shall be reported as less than the value of the LOD. For example, if a substance is not detected at a concentration of one (1.0) milligram per liter, the value shall be reported as <1.0 mg/l.

(ii) Effluent concentrations greater than or equal to the LOD shall be reported at the measured result. Effluent concentrations greater than or equal to the LOD and less than the limit of quantification (LOQ) that are reported on a DMR shall be annotated on the DMR to indicate that the result is not quantifiable.

(iii) Mass discharge results which are calculated from concentrations reported as less than the value of the limit of detection shall be reported as less than the corresponding mass discharge result.

(iv) Mass discharge values that are calculated from effluent concentrations greater than the limit of detection but less than the limit of quantitation shall be reported as the calculated value. These values shall be annotated on the DMR to indicate that the value is not quantifiable.

Mass discharge values that are calculated from effluent concentrations equal to and greater than the limit of quantitation shall be reported on the DMR as the calculated value.

b. Monthly Average of Daily Values

(i) For all parameters for which there is a monthly average, calculations that require averaging of measurements of daily results (both concentration and mass) shall use an arithmetic mean. When a daily discharge result is less than the LOQ, the equation in Part III.E.2., below shall be used to calculate a daily discharge value that shall be used in the calculation of the monthly average in place of the actual daily discharge result.

(ii) For all parameters for which the monthly average is less than the LOQ, daily effluent results, used in the determination of a monthly average effluent level, that are less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the LOD, and appropriate statistical techniques, a value other than zero (0) is warranted.

2. Averaging Analytical Values When One or More Values are Less than the LOQ.

Where the permittee samples more than once per month and obtains an analytical data base that contains concentration results below the LOQ, the permittee shall utilize the following protocol that sets a value to be used for analytical results below the LOQ according to their frequency of occurrence. These values can then be used to calculate the average value for DMR reporting.

a. For results that are less than the LOD:

V_{LOD} (or values) = (LOD) *(F_{LOD}) Eqn.1

Where:

$$F_{LOD} = 1 - \frac{\text{Number of Results Less Than the LOD}}{\text{Total Number of Results}}$$ Eqn.2

b. For results that are less than the LOQ (including results that are less than or equal to the LOD):

V_{LOQ} (or values) = (LOQ) *(F_{LOQ}) Eqn.3

Where:

$$F_{LOQ} = 1 - \frac{\text{Number of Results Less Than the LOQ}}{\text{Total Number of Results}}$$ Eqn.4

c. Process of generating database to be used to calculate monthly averages:

(1) For concentration values:

(a) LOD = The concentration-based LOD obtained from the table of analytical methods and detection and quantitation levels in Part I.C.4.d. of this permit.

(b) LOQ = The concentration-based LOQ obtained from the table of analytical methods and detection and quantitation levels in Part I.C.4.d. of this permit.

(c) All individual concentration results below the concentration-based LOD are assigned the value of V_{LOD}. This "V" is referred to as the "V_{LOD} – conc.".

(d) All individual concentration results below the concentration-based LOQ, but greater than or equal to the LOD are assigned the value of V_{LOQ}. This "V" is referred to as the "V_{LOQ} – conc.".

(2) For mass values:

(a) Generate a mass result from the corresponding concentration result and flow, converted to mass. This result is presented on the DMR.

(b) The "Number of Results Less than LOD", as used in Equation 2, is the number of concentration results below the concentration-based LOD.

(c) The "Number of Results Less Than the LOQ", as used in Equation 4, is the number of concentration results below the concentration-based LOQ (including the number of results less than the concentration-based LOD).

(d) The mass-based LOD, as used in the calculations of "V", as used in Equation 1, is obtained from the table of analytical methods and detection and quantitation levels in Part I.C.4.d. of this permit. This "V" is referred to as the "V_{LOD} - mass".

(e) The mass-based LOQ, as used in the calculation of "V", as used in Equation 3, is obtained from the table of analytical methods and detection and quantitation levels in Part I.C.4.d. of this permit. This "V" is referred to as the "V_{LOQ} - mass".

(f) If the corresponding concentration result is less than the concentration-based LOD, then the mass value is the V_{LOD} - mass.

(g) If the mass result is less than the mass-based LOQ and the corresponding concentration result is less than the concentration-based LOQ, and greater than or equal to the concentration-based LOD, then V_{LOQ} - mass is used.

(h) If the mass result is greater than or equal to the mass-based LOQ and the corresponding concentration result is less than the concentration-based LOQ, and greater than or equal to the concentration-based LOD, then V_{LOQ} - mass is used.

(i) If the mass result is less than the mass-based LOQ and the corresponding concentration result is greater than or equal to the concentration-based LOQ, then the mass result is used.

(j) If the mass result is greater than or equal to the mass-based LOQ and the corresponding concentration result is greater than or equal to the concentration-based LOQ, then the mass result is used.

All data points now have values and can be arithmetically averaged.

d. Example:

(1) Discharge Data

Assume the following are true:

(a) The effluent flow is 1.0 MGD
(b) Concentration-based permit limits are 15µg/l as a monthly average and 20 µg/l as a daily maximum.

(c) Mass-based permit limits are 0.13 lbs/day monthly average and 0.17 lbs/day daily maximum.

(d) Concentration-based LOD is 3.2 µg/l

(e) Concentration-based LOQ is 10 µg/l

(f) Mass-based LOD is 0.027 lbs/day

(g) Mass-based LOQ is 0.083 lbs/day

Actual Data (DMR Results)			Calculated Data (See Below)	
Concentration (µg/l)	Flow (MGD)	Mass (lbs/day)	Concentration (µg/l)	Mass (lbs/day)
<3.2	.09	<0.002	2.84	0.021
8	1.5	0.10	6.67	0.083
23	0.6	0.12	23	0.12
12	1.2	0.12	12	0.12
8	0.9	0.06	6.67	0.050
15	0.8	0.10	15	0.10
20	0.6	0.10	20	0.10
18	1.1	0.17	18	0.17
12	0.6	0.06	12	0.06
Monthly Average (for DMR)=			13	0.092

(2) **Concentration monthly average calculations:**

(a) The number of results below the concentration-based LOD is one (1), and the total number of values is (9), therefore:

$F_{LOD} = 1 - (1/9) = 0.889$

V_{LOD} – conc. = (3.2) * 0.889 = 2.84 µg/l

(b) The number of results below the concentration-based LOQ (including the results below the concentration-based LOD) is three (3), and the total number of values is nine (9), therefore:

$F_{LOQ} = 1 - (3/9) = 0.667$

V_{LOQ} – conc. = (10) * 0.667 = 6.67 µg/l

(c) For the purposes of calculating a monthly average value to put on the DMR, the one (1) daily result below the LOD is assigned a value of 2.84 µg/l, and the two (2) daily results below the LOQ (but greater than or equal to the LOD) are each assigned a value of 6.67 µg/l. (The concentration values of 2.84 µg/l and 6.67 µg/l shall not be put on the state DMR, instead, the daily results are to be put on the state DMR.)

(d) The arithmetic average is:

(2.84+6.67+23+12+6.67+15+20+18+12)/9 = 13 µg/l

The permittee would report a daily maximum of 23 µg/l and a monthly average of 13 µg/l on the DMR forms. In this example, the permittee complies with the monthly average permit limit but has a violation of the daily maximum limit.

(3) **Mass monthly average calculations:**

(a) The number of mass results is nine (9). The number of mass results calculated from a corresponding concentration result less than the concentration-

based LOD is one (1). This mass result is assigned a mass value that is calculated as follows:

V_{LOD} - mass = (0.027 lbs/day) * 0.889 = 0.024 lbs/day

[NOTE F_{LOD} = 0.889 based on the number of concentration results less than concentration-based LOD]

(b) The number of mass results calculated from a corresponding concentration result less than the concentration-based LOQ, and greater than or equal to the concentration-based LOD is two (2). These two (2) mass results are assigned a mass value that is calculated as follows:

V_{LOQ} - mass = (0.083 lbs/day) * 0.667 = 0.055 lbs/day

[NOTE F_{LOQ} = 0.667 based on the number of concentration results less than concentration-based LOQ (including the number of concentration results less than the concentration-based LOD)]

(c) The arithmetic average is:
(0.021+0.083+0.12+0.12+0.050+0.10+0.10+0.17+0.06)/9 = 0.092 lbs/day

The permittee would report a daily maximum of 0.17 lbs/day and a monthly average of 0.092 lbs/day on the DMR forms. In this example, the permittee complies with both the monthly average and the daily maximum permit limits.

F. POLYCHLORINATED BIPHENYL

There shall be no discharge of polychlorinated biphenyl (PCBs) compounds such as those commonly used for transformer fluid.